

★ No. 6355.53



1951-58



ANNUAL REPORT
OF THE
PUBLIC WORKS DEPARTMENT
FOR THE
YEAR ENDING DECEMBER 31, 1953.

BOSTON, January 2, 1954.

HON. JOHN B. HYNES,
Mayor of Boston.

DEAR MR. MAYOR:

In compliance with the provisions of section 24 of chapter 3 of the Revised Ordinances of 1947, I respectfully submit the annual report of the Public Works Department for the year ending December 31, 1953.

FISCAL.

The total expenditures of the department for the year were \$20,567,381.71, of which \$1,672,698.32 represents water assessments levied by the Metropolitan District Commission, and \$594,228.80 represents Metropolitan District Commission sewer assessments.

The receipts of the Water Division totaled \$4,991,108.54, and the revenue derived from the operation of the Summer Tunnel reached a record high of \$2,172,410.

The surplus resulting from the sale of water amounted to \$533,649.12, and the operation of the Summer Tunnel resulted in a record-breaking surplus of \$901,235.50.

*Boston City Manager
Dec. 16, 1954*

LOAN ORDERS.

On May 19, 1953, a City Council order was approved by your Honor, which provided, under the provisions of section 7 of chapter 44 of the General Laws, that the sum of \$2,700,000 be appropriated for the construction of an incinerator, and on June 2, 1953, that the sum of \$2,000,000 be appropriated for the construction of public ways and the sum of \$1,000,000 be appropriated for the construction of sewerage works.

STREET CONSTRUCTION WORK.

State-Aid Program.

Last year we completed a considerable amount of street reconstruction under the Chapter 90 State-Aid Highway Reconstruction Program. The following important main highways were constructed during the year under this program:

Allandale street, from Centre street to the Brookline line.
Chelsea street, from Maverick square to Day square.

Morton street, from Harvard street to railroad bridge east of Norfolk street.

South street, from Centre street to the Arborway.

Washington street, from Asticou road to West Roxbury Parkway.

The total cost of the Chapter 90 Construction Program in Boston for the year 1953 was \$499,696.85, of which the State Department of Public Works, under the provisions of section 34 of chapter 90 of the General Laws paid 45 per cent, thereby presenting a substantial savings to the taxpayer. It is planned to again conduct an extensive program of construction under this chapter in 1954.

Non-State-Aid Program.

We also completed a major street reconstruction program, comprising extensive construction and reconstruction, in every section of the city. In addition to work done on downtown streets, the department resurfaced several important traffic arteries, listed as follows:

Annunciation road, from Parker street to Ruggles street.

Beacon street, from Park street to Charles street.

Boylston street, from Washington street to Tremont street, and from Dartmouth street to Exeter street.

Centre street, from Belgrade avenue to Spring street.

Devonshire street, from Franklin street to Summer street.

Newmarket square, from Southampton street to Massachusetts avenue.

Northampton street, from Columbus avenue to Albany street.

Prince street, from Pond street to Perkins street.

Ruggles street, from Washington street to Huntington avenue.

Saratoga street, from McClellan Highway to Bennington street.

Theodore A. Glynn Way, from Southampton street to Massachusetts avenue.

In continuation of our policy of replacing brick sidewalks with cement concrete in the older sections of the city, contracts during the year, totaling approximately \$78,500, were awarded for this work.

The following is a summarized financial statement of the expenditures made in 1953 for highway improvements:

Budgetary Item.		
Public Ways, Construction of (Loan Account) . . .	\$2,019,055	36
Public Ways, Construction of (Revenue Account) . . .	157,500	00
Reconstruction of Streets (including sidewalks) . . .	105,800	60
Sidewalks, Construction and Reconstruction of . . .	78,570	59
Total	<u>\$2,360,926</u>	<u>55</u>

The following is a summarized record of the highway improvement work done by the department in 1953:

Number of Streets Constructed or Reconstructed, 170.

Includes 47 new streets ordered laid out and constructed by the Board of Street Commissioners under the provisions of chapter 393 of the Acts of 1906.

Miles of Streets Improved, 28.16.

Includes 5 miles of so-called Chapter 90 State-Aid Highway Improvements.

Miles of Sidewalks Improved, 9.57.

In addition to sidewalk improvements included in the above-noted street improvements.

We also completed, during the year, the removal in 104 streets of 590 gas lamps, which were replaced with an equal number of 1,000- or 2,500-lumen electric lamps. It is our intention to continue with this program during 1954.

SNOW REMOVAL.

We were fortunate during the past year in that no snowstorms of major proportions occurred. Only two days had snowfall of appreciable precipitation, January 9, 8.4 inches, and February 12, 5.8 inches, requiring removal by contract forces. We experienced little difficulty in keeping the streets properly plowed and sanded throughout the winter months.

There are over 735 miles of public streets that have to be plowed and maintained during the winter months. The department's fourteen (14) Walter snowfighters were used to plow, sand, and salt the streets of the downtown area. Most of the plowing work in the rest of the city was done by 250 trucks rented on an hourly basis from contractors.

The cost of snow removal work for 1953 totaled \$394,551.95.

Late in the year, we were notified that the Metropolitan Transit Authority would no longer plow and sand streets carrying bus routes, starting the winter of 1953-54. Subsequently, we purchased from the MTA twenty-one (21) pieces of their equipment at a cost of \$22,710, in order to perform this work.

MERIDIAN STREET BRIDGE.

Construction of the new bridge, under the supervision of the Department of Public Works of the Commonwealth, is proceeding rapidly. The substructure, built by the Merritt-Chapman & Scott Corporation, was completed early in the year. Considerable progress has been made on the superstructure by the contractor, the American Bridge Company, and it is estimated that the work will be completed and the bridge placed in operation late in 1954.

SOUTH FERRY.

Service was terminated on this ferry at the close of business on December 31, 1952, and the ferry personnel was transferred to other services during January, 1953. At a public auction, held on April 5, 1953, the two (2) ferryboats were sold for a total of \$32,000. Later, the bridge drops and other appurtenances were sold for junk and all final expenses and obligations of the Ferry Service were discharged.

REFUSE DISPOSAL.

As previously stated, an appropriation was made providing for the construction of the so-called central incinerator in the vicinity of Southampton street. No further progress was made on this facility, pending the acquisition of a site which we are trying to obtain from the State Department of Public Works.

We assisted in drafting a bill providing for the creation of a Brighton-Watertown Incinerator Authority, in order to construct and operate an incinerator for the disposal of refuse from said communities. This bill was introduced in the 1953-54 session of the General Court as House No. 1737.

No apparent progress has been made in the incinerator program of the Metropolitan District Commission, as provided under chapter 559 of the Acts of 1952. As far as I know, of all the Metropolitan Boston communities, only the City of Boston has agreed to enter into this arrangement.

An appreciable advancement in sanitation was made as pertains to the collection of refuse by the awarding on April 1, 1953, of garbage and refuse collection contracts providing that, in seven (7) out of the seventeen (17) collection districts, the contractor is required to furnish enclosed steel bodies on all refuse trucks. This advancement was made with no appreciable increase in collection costs. It is planned to extend the furnishing of these enclosed trucks to other districts over the next two years, so that eventually only enclosed body trucks will be used for refuse collection in all sections of the city.

PURCHASE OF EQUIPMENT.

New equipment purchased during the year included three (3) Wayne street sweepers, two (2) Hough bucket loaders, two (2) Trojan bucket loaders, one (1) Caterpillar tractor, eight (8) Ford dump trucks, five (5) Ford pickup trucks, five (5) Chevrolet pickup trucks, two (2) Ford emergency gate-closer trucks, one (1) Ford stake body truck, one (1) Ford platform crane, one (1) International plumbing shop truck, one (1) Ford sedan, and one (1) power lawn mower.

Used equipment purchased from the MTA to plow

and sand streets along bus routes, comprised sixteen (16) Walter snow fighters, three (3) FWD snow fighters, one (1) Barber-Greene snowloader, and one (1) Nelson snowloader.

PERSONNEL.

There were 2,166 employees in the department as of December 31, as compared with 2,340 employees on January 1, 1953.

DETAILED REPORTS.

Appended hereto are reports submitted by the Division Engineers relative to the activities of their divisions in 1953.

Respectfully submitted,

GEORGE G. HYLAND,
Commissioner of Public Works.

The records of the department show that there are now 2,166 persons eligible for employment in the several divisions, and of that number 2,140 were upon the January 1, 1954, payrolls.

Grade and Number of Employees.

TITLE.	SERVICES.								
	Central Office.	Automotive.	Bridge.	Highway- Lighting.	Sanitary.	Sewer.	Tunnel.	Water.	Total.
Commissioner.....	1								1
Division engineers.....		1			1	1		1	4
Associate civil engineer.....	1								1
Assistant division engineers.....			1	1					2
Superintendents and assistants.....		1	1	2	2	1	1	2	10
Supervisors and assistants.....	1	1		2	1		1	1	7
Principal senior and civil engineers.....			9	17		20		4	50
Junior civil engineers.....			3	5		6		1	15
Senior engineering aids.....				16		10		2	28
Junior engineering aids.....			1	5		4		1	11
Automotive and senior electrical engineers.....		1					2		3
Chief pumping station engineer.....						1			1
Pumping station engineers and stationary engineers.....						5			5
General foreman.....					1				1
District foremen.....				12	21	7		5	45
Other foremen.....		10	1		3	1	1	5	21
Chief inspectors.....				1		2			3
Inspectors.....		1	5	65	69	14		17	171
Chief electrician.....							1		1
Electrician operators.....			1			2	15		18
Executive secretary, P.W.D.....	1								1
Senior personnel officer and assistant.....	2								2
Head clerks.....	1	1	1	1	1	1	1	3	10
Principal clerk and secretary.....	1								1
Principal clerks, stenographers, account clerks, etc.....	1	2	2	7	4	2	1	4	23
Senior clerks, typists, stenographers, etc.....	2	3	2	7	2	6		30	52
Clerk-stenographers, clerks, typists.....		4			4	2		28	38
Carried forward.....	11	25	27	141	109	85	23	104	525

Grade and Number of Employees.—Continued.

TITLE.	SERVICES.								
	Central Office.	Automotive.	Bridge.	Highway- Lighting.	Sanitary.	Sewer.	Tunnel.	Water.	Total.
<i>Brought forward</i>	11	25	27	141	109	85	23	104	525
Telephone operator								1	1
Head cashier							1		1
Senior cashier and cashiers			1	2			5	2	10
Principal storekeeper		1							1
Senior storekeeper and storekeepers		2			1		1	1	5
Chief water meter reader								1	1
Supervisor and special water meter readers								7	7
Water meter readers								28	28
Sergeant tollmen guards							4		4
Tollmen guards							45		45
Supervisor, mobile guard		1							1
Sergeant mobile guards		2							2
Mobile guards		12							12
Drawtenders and assistants			138						138
Marine captains			1		1				2
Junior chemist				1					1
Estimator and investigator				1				2	3
Dispatcher		1							1
Plumbers								23	23
Photostat operator						1			1
Sewer gateman						5			5
Yardmasters and yardmen			1	2	1	6		6	16
Road roller operators				4					4
Working foremen		1	3	3	2	7	3	25	44
Sewage screen operators						3			3
Firemen and oilers						16			16
Steamfitters				1				1	2
Repairmen and maintenance men		33	2	2	1	10	2	101	151
Crane operators				1				1	2
Maintenance mechanics and helpers, etc.		5			5			6	16
Carpenters			12	4	8	2		1	27
Painters		2	3	2	7		1		15
<i>Carried forward</i>	11	85	188	164	135	135	85	310	1,113

Grade and Number of Employees.—Concluded.

TITLE.	SERVICES.								
	Central Office.	Automotive.	Bridge.	Highway-Lighting.	Sanitary.	Sewer.	Tunnel.	Water.	Total.
<i>Brought forward</i>	11	85	188	164	135	135	85	310	1,113
Pavers.....				58				2	60
Blacksmiths and helpers.....				2	17			2	21
Tool and die makers.....						1		1	2
Bricklayers.....					1	5		1	7
Sewer cleaners.....						20			20
Catch basin machine operators.....						10			10
Heavy motor equipment operators.....		1		13	46	1	13	17	91
Motor equipment operators.....		6	7	53	121	31		29	247
Garage attendants.....		20					2		22
Laborers.....		25	4	100	353	16	7	54	559
Constables.....					9			5	14
Totals.....	11	137	199	390	682	219	107	421	2,166

Number of Employees Actually Employed January 1, 1953, and January 1, 1954.

	Tunnel.	Central Office.	Bridge.	Water.	Paving and Lighting.	Sanitary, Street Cleaning.	Sewer.	Automotive.	Total.
January 1, 1953.....	100	11	210	448	420	750	234	137	2,310
January 1, 1954.....	106	11	197	418	385	681	215	135	2,148

Total Eligible Force.

January 1, 1953.....	104	11	217	455	423	755	237	138	2,340
January 1, 1954.....	107	11	199	421	390	682	219	137	2,166

Appointments, Transfers, Resignations, Retirements, Deaths, etc., of Employees.

Died.	Retired.	Transferred to Other Departments.	Transferred to Other Services.	Discharged.	Resigned.	January 1, 1953.	SERVICES. 1953-1954.	January 1, 1954.	Transferred from Other Services.	Transferred from Other Departments.	Reinstated.	Appointed.
...	...	...	...	...	...	11	Central Office...	11	...	...	...	...
3	5	...	2	...	3	138	Automotive.....	137	10	1	...	1
3	16	...	2	...	...	217	Bridge.....	199	2	1	...	...
4	24	...	6	2	5	423	Highway.....	390	4	2	2	...
16	44	...	10	5	6	755	Sanitary.....	682	4	3	1	...
3	15	1	2	...	1	237	Sewer.....	219	3	...	1	...
...	5	...	...	...	1	104	Tunnel.....	107	1	...	...	8
3	29	2	2	1	2	455	Water.....	421	...	1	1	3
32	138	3	24	8	18	2,340	Totals,....	2,166	24	8	5	12

MAINTENANCE APPROPRIATIONS AND EXPENDITURES.

DIVISION OR SERVICE.	Total Appropriations, Including Transfers and Amounts Carried over from 1952.	Expenditures.	Unexpended Balance.
Central Office	\$62,336 60	\$62,066 49	\$270 11
Automotive Division	762,029 57	744,669 43	17,360 14
Bridge Service	847,090 39	836,429 03	10,661 36
Ferry Service	11,937 11	10,338 93	1,598 18
Tunnel Service	615,479 34	607,918 96	7,560 38
Lighting Service	1,365,581 10	1,349,451 99	16,129 11
Paving Service	1,536,877 04	1,442,713 66	94,163 38
Sanitary Division	5,178,538 50	5,105,598 82	72,939 68
Sewer Division	878,792 13	812,988 08	65,804 05
Water Division	2,723,987 71	2,458,359 86	265,627 85
Totals	\$13,982,649 49	\$13,430,535 25	\$552,114 24

LOANS AND SPECIAL APPROPRIATIONS.

TITLE.	Total Amount Available.	Expenditures.	Unexpended Balance.
Bridges, Construction of (revenue).....	\$161,536 59	\$0 00	\$161,536 59
Bridges, Construction of (non-revenue).....	3,133,856 41	1,044,226 34	2,089,630 07
Bridges, Repairs etc. (revenue).....	464,216 35	179,532 85	284,683 50
Reconstruction of Streets (revenue).....	129,924 26	105,800 60	24,123 66
Sidewalks, Construction and Reconstruction of (revenue).....	129,967 80	78,570 59	51,397 21
Street Signs (revenue).....	22,870 41	8,736 14	14,134 27
Public Ways, Construction of (revenue).....	157,500 00	157,500 00	0 00
Public Ways, Construction of (non-revenue).....	3,550,834 60	2,019,055 36	1,531,779 24
Snow Removal (revenue).....	403,975 68	394,551 95	9,423 73
Construction of Buildings and Original Equipment and Furnishings thereof (non-revenue).....	11,900 44	0 00	11,900 44
Sewerage Works (revenue).....	158,945 30	148,182 98	10,762 32
Sewerage Works (non-revenue).....	1,607,435 89	733,762 53	873,673 36
Totals.....	\$9,932,963 73	\$4,869,919 34	\$5,063,044 39

REVENUE.

On Account of Public Works Department.

Central Office:		
Charges for plans and specifications	\$1,208 00	\$1,208 00
Automotive Division:		
Sale of Junk	\$540 16	540 16
Bridge Service:		
Rents	\$4,690 00	
Damage to property	566 78	
Refund on drums	24 00	
Miscellaneous	183 12	
Sale of junk	32 41	5,496 31
Ferry Service:		
Tolls	\$92 44	
Cleaning telephone booths	2 00	
Commission on telephones	5 65	
Refunds	16 00	
Sale of junk	80 61	
Refund of petty cash	70 00	266 70
Summer Tunnel:		
Tolls	\$2,172,410 00	2,172,410 00
Lighting Service:		
Sale of junk	\$245 77	245 77
Paving Service:		
From assessments (added to taxes) on abutters for cost of laying side-walks in front of their premises	\$652 62	
Permits	24,292 70	
Rents	250 00	
Sale of materials	2,069 95	
Contributions from Commonwealth of Massachusetts under chapter 90 of General Laws for Construction of public ways	242,495 69	269,760 96
Sanitary Division:		
Sale of garbage	\$36,000 00	
Advertising space	516 54	
Miscellaneous	213 00	36,729 54
Sewer Division:		
Disposal of sewage	\$19,233 00	
Entrance fees	4,704 20	
Sale of junk	309 97	
Rents	39 00	
Refunds	30 00	
Cleaning drains	45 00	
Miscellaneous	77 26	24,438 43
Carried forward		\$2,511,095 87

<i>Brought forward</i>		\$2,511,095 87
Water Division:		
Water rates	\$4,549,640 89	
Water rates added to taxes	278,892 70	
Service pipes for new takers, extending, repairing, etc.	1,452 20	
Fees on overdue rates	584 09	
Sale of junk	1,728 13	
Damage to property	1,078 88	
Labor and materials	7,506 10	
Deposit account	102,547 97	
Elevator and fire pipe connections	4,089 85	
Miscellaneous income	4,417 77	
		<hr/> 4,951,938 58
Grand total		<hr/> <u>\$7,463,034 45</u>

PART II.
APPENDICES.

APPENDIX A.

REPORT OF THE AUTOMOTIVE DIVISION FOR
THE YEAR 1953.

BOSTON, January 2, 1954.

To the Commissioner of Public Works.

DEAR SIR:

I am submitting herewith the annual report of the Automotive Division of the Public Works Department for the year ending December 31, 1953. This report covers the activities of the four garages and the offices of the Automotive Division, and the activities of the Mobile Patrol and the Motor Pool.

The Automotive Division is primarily concerned with the repair and maintenance of the automotive equipment of the department, but we are on call for many other duties. One such call came on the night of June 10, 1953, when we quickly responded to a plea for assistance from the City of Worcester which had been badly hit by a tornado on June 9, 1953. The division dispatched six men with the following equipment: One three quarter-ton service truck-compressor, two half-ton pickup trucks, one hundred and fifty-two 500-watt light bulbs, three and one half miles of wiring, three trailer-type Griffin lighting units, each carrying six 500-watt lamps, one Hobart welding unit, with generator carrying five 500-watt lamps, and 15 Homelite portable gas-driven lighting units, with cluster type lights. This lighting equipment was used to provide light for four streets, each about 2,000 feet long, and for the grounds of Assumption College. In addition, we carried up 65 gas-driven saws which were used for cutting up fallen trees, telegraph poles, heavy lumber, and débris. This latter operation was in charge of District Foremen Prior and Malloy of the Bridge and Highway Division, and Welder Foreman Edward Elmo of the Automotive Division. Our relief party was self-supporting since we maintained our own supplies, such as gasoline, oil, tools, etc. The men were on duty from June 10 through June 19, 1953.

Another project in which the Automotive Division assisted was the driver training school conducted by the Mayor's Automotive Advisory Committee. This school was established in 1952, and has now given instruction to over 500 drivers. In connection with this course, the Automotive Division has conducted a survey of Public Works Department motor vehicle accidents, and a chart covering a five-year period is attached to this report.

The one hundred and forty employees of the division are engaged in the following duties: One division engineer, in charge of the division, 41 employees assigned to repair work, 41 employees assigned to maintenance of buildings, gasoline and oil dispensing, cleaning, watchman duties, and motor vehicle operation, four employees assigned to the stockroom, three employees assigned to operation of wreckers, 10 employees assigned to office work, one dispatcher, and 39 employees assigned to the Mobile Patrol which maintains a watch over Public Works Department property and equipment between the hours of 4 P.M. and 8 A.M.

The office maintained by the division at City Hall processed 2,294 requisitions in 1953, of which 1,098 were service orders and 1,196 were purchase orders. Approximately 100 purchases a month, usually under \$3 each, are made from petty cash funds. The City Hall office reports the following expenditures for 1953:

Personal services	\$446,870 19
Contractual services	48,420 26
Materials and supplies	148,801 44
Rents and registration fees	9,131 70
Purchase of new equipment	91,445 84
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Total expenditures	\$744,669 43

The new equipment added to our fleet in 1953 consisted of the following:

3 Trojan bucket loading machines	\$19,725 00
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Replacements to our fleet in 1953 consisted of the following:

Charged to Snow Removal:

15 Walter snow fighters	\$17,145 00
3 FWD snow fighters	\$3,510 00

Charged to Water Division:

1 new 1953 Ford four-door sedan	\$546 99
1 new 1953 Ford chassis and cab with truck crane, Gar Wood and steel platform body	\$7,487 00
1 new International RM-150 with Metro body	\$2,502 96
2 new 1954, half-ton, Chevrolet pickup trucks	\$2,254 00
1 new 1954 Ford, F-250, chassis and cab	\$1,568 00
1 new Ford, F-250, with Gyro type air compressor	\$4,206 16
3 new 1954 Chevrolet, Model 3809, standard express trucks	\$4,248 30
2 new 1954 Fords, F-250, with special bodies	\$4,243 40
1 new Ingersoll Rand, Model GR-105, Gyro flow rotary air compressor	\$2,709 70
1 Ingersoll Rand, 30-gallon air receiver	\$145 00

Charged to Automotive Division:

1 new 1954 two-door sedan	\$1,129 94
1 new Ford, 1953, one and one-half-ton chassis with 2-yard dump body	\$2,194 23
7 new 1953 Fords, F-7, 3-yard dump bodies, Galion, Model 12, hoists, Galion, Model 700	\$22,952 19
4 new 1953 Chevrolet, half-ton, pickup trucks	\$4,233 60
1 stake body truck, 8-cylinder	\$1,776 74
1 new 1953, half-ton, pickup truck	\$1,171 10
2 new 1953 Ford, F-100, pickup trucks	\$2,319 92
2 Ford, F-100, pickup trucks	\$1,996 00
1 1934 Walter snow fighter	\$875 00
1 1954 Ford, F-100, half-ton, pickup truck	\$1,312 00
1 G. E. Tungar battery charger with bulbs	\$77 00
1 Model WA-75 Weaver jack	\$101 38
1 crawler tractor and angle dozer	\$10,343 90
1 1947 Barber-Greene bucket loader	\$740 00
1 1948 Nelson bucket loader	\$440 00
2 Hough, model front, bucket-type loadsters	\$11,270 00
3 new Wayne street sweepers, Model 2-450	\$29,841 00
1 reversible rotary lawn mower, 25-inch blade	\$340 55
4 new 1954 dump trucks, Ford, F-500	\$13,972 00
1 new 1954 four-door sedan, Ford	\$1,053 00
6 new 1954 two-door sedans, Ford	\$7,666 00
2 new Elgin, 81-motor, pickup sweepers	\$17,820 00
1 new Netco catch-basin cleaning machine	\$6,940 00
1 new 1954 chassis and cab only, Chevrolet Model 4100	\$1,760 00
3 new 1954 Ford, two-door sedans	\$4,203 00

The year 1953 saw an extension of the policy of installing two-way radios in our vehicles, and we now have

a total of 40 vehicles so equipped. The funds for this installation were provided by Civil Defense, but maintenance costs will be paid from Automotive Division funds. During the winter months all radio-equipped cars were used in snow removal work and proved to be of great value. This operation is under the direction of our dispatcher.

Late in 1953, the Metropolitan Transit Authority notified the cities and towns that the MTA would cease to plow and sand streets carrying bus routes. This ruling by the MTA, to take effect in the winter of 1953-54, was accompanied by an offer to sell to the cities and towns the equipment formerly used in this plowing and sanding work. After a survey by the Automotive Division engineer, the Commissioner of Public Works advised the Mayor to purchase 21 pieces of equipment, namely, 16 Walter trucks, three FWD trucks, one Barber-Greene snow loader, and one Nelson snow loader, at a cost of \$22,710. The year of manufacture of the snow-fighting trucks ranged from 1934 to 1940, the Barber-Greene loader was built in 1947, and the Nelson loader in 1948.

The addition of this MTA equipment to our fleet in late November, 1953, necessitated the quick recruiting of men qualified to drive heavy duty equipment. After a canvass of the department, 46 men applied, and, after training and testing, 26 men were picked to drive this equipment. The garaging of these large trucks and loaders presented a problem, and it was necessary to search the length and breadth of the city for locations accessible to sand and salt piles. Inspector Fred Harvey was assigned to follow driver operation of this equipment, and its maintenance and repair. Fortunately, the month of December, 1953, proved to be a mild one, and it gave us some time to prepare this added equipment and to train the new drivers.

During the summer of 1953, we painted our own snow-fighting equipment. This work was done by the men employed in the welding shop. We have the necessary equipment to do this work, and the men turned out a professional job. However, we have to do the work outdoors, and, therefore, are forced to depend on the weather.

We also sent nine of our snow fighters to an outside repair shop for repairs, under a contract amounting to \$9,300. This work was sent out to the manufacturer's representative due to our lack of facilities and personnel to do this work.

Other work sent out consisted of glass work, spring work, radiator repairs, and other work of a specialized nature. Approximately 6,000 repair jobs were done in our own shops, about the same number as in 1952.

The annual inventory taken in December, 1953, showed a stock on hand of \$61,464.90. This compares with \$38,681.48 in 1952 and \$43,705.00 in 1951. The increase was partly due to an increase in the stock of antiskid chains and tires purchased for our snow removal equipment, and partly due to an increase in Ford parts necessitated by our purchase of heavy Ford trucks, Models 700 and 750.

Mr. John Flaherty of the commissioner's office conducted a survey of the property of the department in the fall of 1953, and made several recommendations for the improvement of buildings, etc. He advised that plumbing repairs be made at the Albany Street garage, and that the windows be repaired and replaced at the same garage. These repairs were made, but, if the department is to retain this garage, the steel window frames on the second floor should be replaced. Mr. Flaherty also advised that this garage be painted, and I suggest that the painters of the Sanitary Division could possibly spray paint the entire inside of the first floor. The Dana Avenue garage should be painted if department painters could be made available. The office in the Dana Avenue garage, occupied by the Paving Service, should be painted by Paving Service employees. The Automotive Division painted this office in 1951.

The only major improvements to any of our buildings was the installation of an oil-burning hot-air heating system in the welding shop, and the installation of a complete exhaust-eliminating system in the Highland Street garage. The welding shop, which is located in an old brick building, was formerly heated by a large coal-burning stove which constituted a possible hazard. Another hazard that was eliminated in 1953 was the carbon monoxide condition that prevailed during the winter months at the Highland Street garage. The exhaust gases became so bad in January, and so many complaints of headaches were being made by the mechanics that a contract was given to the Automotive Distributors Company, Inc., for the installation of a complete exhaust eliminating system at a cost of \$975. The installation has proved satisfactory, no more complaints have been received, and absences due to headaches from this cause have ceased.

VEHICLE ACCIDENTS.

Year.	January	February	March	April	May	June	July	August	September	October	November	December	Total	Year.
1948.....	37*	47	20	16	11	14	20	14	12	13	13	20	237†	1948
1949.....	22	17	16	11	11	5	13	19	15	9	18	23	179†	1949
1950.....	23	31	21	22	13	18	3	13	19	15	19	20	217	1950
1951.....	32	28	24	11	24	21	11	14	14	16	17	28	240	1951
1952.....	33	57	17	11	18	12	12	20	16	19	12	21	248	1952
5-year average	29	36	20	14	15	14	12	16	15	14	16	22	224	5-year average
1953.....	24	30	24	18	17	21	19	9	20	14	13	11	220	1953

* Sanitary Division only (January, 1948).

† Incomplete figures for 1948 (only Sanitary Division accidents shown in January, 1948).

† Probably incomplete figures for 1949.

AUTOMOTIVE EQUIPMENT, DECEMBER 31, 1953.

	Sanitary.	Paving.	Water.	Sewer.	Bridge.	Tunnel.	Automotive.	Motor Patrol.	Commissioner.	Street Lighting.	Totals.
Passenger cars:											
Ford sedans	12	7	9	7	1	2	1	1		1	41
Buick sedans	1		2	1		1	2		1		8
DeSoto sedans							4				4
Packard sedan							1				1
Chevrolet carryalls		7		3	1						11
Willys jeeps		2				2					4
											— 69
Pick-up trucks:											
Ford	19	14	17	3		1	3	3			60
Chevrolet		1	2	4							7
											— 67
1½-ton dump trucks:											
Dodge, 2-yard	22										22
Dodge, 2½-yard	3										3
Dodge, 3-yard	5										5
Ford, 2-yard		12		4							16
Ford, 2½-yard		1									1
Ford, 3-yard		3		1							4
Ford, 6-yard COE	2										2
Ford, 10-yard	13										13
Ford, 10-yard COE				1							1
Ford, 12-yard	4										4
											— 71
2-ton dump trucks:											
Ford, 2-yard	24	7	6								37
Ford, 2½-yard	6				1						7
Ford, 3-yard				4							4
Ford, 6-yard COE	4										4
Ford, 10-yard	1										1
											— 53
Derrick truck, Ford											
			4								4
											— 4
Catch-basin cleaners, Ford											
				5							5
											— 5
Catch-basin cleaners, Chevrolet											
				1							1
											— 1
Wreckers:											
Ford, 1½-ton	1					1	1				3
Ford, 2-ton							1				1
Diamond T, 6-ton							1				1
GMC, 8-ton						1					1
											— 6
Compressor mounted trucks:											
Ford			8	1	2						11
Compressor trailers:											
LeRoi		1									1
Chicago-Pneumatic		1									1
											— 13
Emergency trucks:											
Chevrolet, 1-ton			3								3
Ford, 1-ton			8								8
Ford, 1½-ton				5							5
Emergency gate closers:											
Ford, 3-ton			2								2
Portable plumbing shop:											
International			1								1
											— 19
2½-ton dump trucks:											
Ford, 3-yard, with sand spray		16									16
											— 16
5-ton dump trucks:											
White, 5-yard, with sand spray		2									2
White, 13-yard	3										3
											— 5

AUTOMOTIVE EQUIPMENT, DECEMBER 31, 1953—Concluded.

	Sanitary.	Paving.	Water.	Sewer.	Bridge.	Tunnel.	Automotive.	Motor Patrol.	Commissioner.	Street Lighting.	Totals.
Miscellaneous trucks:											
Mack jet sander.....		1									1
Ford tractor, 1½-ton.....	1										1
Ford tractor, 3-ton.....	1										1
Ford service, 1-ton.....							1				1
Ford core drill, 1-ton.....		1									1
Ford stake, 1½-ton.....				1							1
Ford stake, 2-ton.....		1									1
Ford platform.....				1							1
Ford flusher, 700-gallon.....						1					1
Ford aerial.....						1					1
Ford hydrant.....			1								1
Ford meter.....			1								1
											—
Ford lumber.....					2						2
Street sweepers:											
Elgin.....	17										17
Wayne.....	5										5
Austin-Western.....	2										2
											—
Flushers:											
White, 1,500-gallon.....	1										1
White, 2,000-gallon.....	4										4
											—
Snow fighters:											
Walter.....		30									30
FWD.....		3									3
											—
Snowloaders, Barber-Greene.....		3									3
Barber-Greene, bucket loader.....		2									2
Nelson, bucket loader.....		1									1
											—
Bucket loaders:											
Trojan.....	2	13	1								16
Hough.....	2										2
											—
Crawler tractors:											
International.....		1									1
Allis-Chalmers.....		1									1
											—
Road rollers:											
Buffalo-Springfield, 6-ton.....		1									1
Galion, 12-ton.....		1									1
											—
Sidewalk rollers:											
Buffalo-Springfield, 2-ton.....		9									9
											—
Miscellaneous equipment:											
Griffin lighting plants.....		3									3
Toolbox trailers.....			6								6
Flexible power buckets.....				2							2
Huber road grader.....		1									1
Hobart welding trailer.....	1										1
Transport trailer.....							1				1
Semi-trailers.....	2										2
Homemade trailer.....		1									1
Lawn mowers.....	2	2									4
Homelite generators.....		3									3
Asphalt heaters.....		2									2
Tool and cement heater.....		1									1
Portable steam cleaner.....							2				2
Trailer pump.....				1							1
Snow shanty trailer.....	1										1
Water pump.....					1						1
Melting kettle.....					1						1
Sidewalk plow.....					1						1
Concrete mixer.....		1									1
Hauck trailer.....		1									1
Paint spray machine.....		1									1
Portable crane.....			1								1
Chlorinator trailer.....			1								1
											—
Totals.....	161	158	73	45	10	10	18	4	1	1	†481

† 445 registered.

NEW AUTOMOTIVE EQUIPMENT RECEIVED IN 1953.

(Other equipment purchased from 1953 funds delivered in 1954).

Sanitary Division:

- 3 new Wayne sweepers
- 2 new Hough front bucket loaders

Highway Division, Paving Section:

- 1 new power lawn mower
- 1 new International Caterpillar tractor
- 2 new Trojan loadsters
- 7 new Ford, $2\frac{1}{2}$ -ton, dump trucks
- 1 new Chevrolet, $\frac{1}{2}$ -ton, pickup truck
- 1 new Ford, 2-ton, stake truck
- 16 MTA Walter snow fighters
- 3 MTA FWD snow fighters
- 1 MTA Barber-Greene bucket loader
- 1 MTA Nelson bucket loader

Sewer Division:

- 4 new Chevrolet, $\frac{1}{2}$ -ton, pickup trucks
- 1 new Ford, $1\frac{1}{2}$ -ton, dump truck
- 2 new Ford, $\frac{1}{2}$ -ton, pickup trucks

Water Division:

- 2 new Ford, 3-ton, emergency gate closers
- 1 new Ford sedan
- 1 new International portable plumbing shop truck
- 1 new Ford, $2\frac{1}{2}$ -ton, platform crane

Sumner Traffic Tunnel:

- 1 new Ford, $\frac{1}{2}$ -ton, pickup truck

Mobile Patrol:

- 2 new Ford, $\frac{1}{2}$ -ton, pickup trucks

APPENDIX B.

REPORT OF THE DIVISION ENGINEER OF
THE BRIDGE AND HIGHWAY DIVISION.

BOSTON, January 2, 1954.

To the Commissioner of Public Works.

DEAR SIR:

The following report of the income, expenditures, and operation of the Bridge and Highway Division for the year ending December 31, 1953, is submitted in two sections by the undersigned assistant division engineers, due to the retirement of Division Engineer John DeMeulenaer on October 6, 1953.

Respectfully submitted,

RUTHFORD KELLEY,

Assistant Division Engineer, Highway Section.

JOHN J. MCCALL,

Assistant Division Engineer, Bridge Section.

John DeMeulenaer graduated from the Massachusetts Institute of Technology in 1920 and entered the service of the City of Boston in 1921 as a structural designing engineer in the Bridge Service of this department.

In 1930 Mr. DeMeulenaer was appointed chief designing engineer and in 1944 was appointed to the position of division engineer of the former Bridge and Ferry Division.

When the Bridge and Highway Division was established in 1950, by combining the Bridge and Ferry Division with the Highway Division, Mr. DeMeulenaer

was appointed to the position of division engineer of the newly established division.

During his career with this department, Mr. DeMeulenaer was prominently identified with the design and construction of such major improvements as the rebuilding of the following drawbridges: Chelsea South Bridge, Chelsea Street Bridge, Congress Street Bridge, and the Meridian Street Bridge. He also participated in the capacity of consulting engineer for other departments on various projects; a notable example being the building of the Long Island Bridge.

In connection with the recently established Reclassification and Compensation Plan, Mr. DeMeulenaer served on the Mayor's Committee throughout the organization of this program.

His retirement ends a long career of loyal and talented service to the City.

I. BRIDGE SECTION.

Bridge Service.

SUMMARY OF BUDGET APPROPRIATIONS AND EXPENDITURES.

	Regular Appropriation	Bridges, Repairs, Etc.	BRIDGES, CONSTRUCTION OF	
			Revenue.	Non-Revenue.
Balance from 1952.....	—	\$189,216 35	\$161,536 59	\$3,133,856 41
1953 Appropriation.....	\$847,090 39	275,000 00	—	—
Total credits.....	\$847,090 39	\$464,216 35	\$161,536 59	\$3,133,856 41
Expenditures.....	\$836,429 03	\$179,532 85	—	\$1,044,226 34
Unexpended balance.....	\$10,661 36	\$284,683 50	\$161,536 59	\$2,089,630 07

BREAKDOWN OF 1953 EXPENDITURES.

1. *Maintenance Appropriations.*

Administration:

Engineering and Super-

vision \$111,316 01

Clerical 20,290 65

Office Supplies, etc. . . . 2,227 66

\$133,834 32

Yard and Stockroom:

Personnel \$45,126 66

Transportation 1,024 17

Heat, Light and Tele-
phone 1,683 22Tools, Supplies and Mis-
cellaneous 3,111 48

50,945 53

Operation of:

Tidewater Bridges:

Salaries and Wages . \$577,655 31

Materials and Supplies 25,591 36

Ordinary Repairs . 15,809 47

619,056 14

Repairs to Inland Bridges:

Labor \$23,646 66

Materials 7,085 10

Total 30,731 76

Stock Purchased . . \$29,276 42

Stock Used 27,415 14

Increase in Stock 1,861 28

Net total \$836,429 03

DETAILS OF EXPENDITURES ON TIDEWATER BRIDGES.
TIDEWATER BRIDGES — 1953.

BRIDGE.	Draw- tenders' Salaries.	Mechanics' Wages.	Material.	Repair Bills.	Supplies.	Total.
Broadway.....	\$38,903 39	\$2,776 81	\$716 48	—	\$970 24	\$43,366 92
Charlestown.....	69,864 15	9,353 86	2,739 75	\$2,608 22	1,846 79	86,412 77
Chelsea South.....	34,923 49	4,815 10	582 61	2,282 70	1,639 86	44,243 76
Chelsea Street.....	52,498 81	4,177 48	480 98	903 46	764 37	58,825 10
Congress Street.....	49,584 51	4,156 92	772 68	73 17	798 17	55,385 45
Dover Street.....	41,185 30	3,824 38	669 73	1,435 29	553 25	47,667 95
L Street.....	41,512 68	4,651 92	1,293 41	253 91	964 85	48,676 77
Malden.....	50,165 23	1,053 51	62 14	634 62	1,150 56	53,068 06
Northern Avenue.....	51,204 60	11,800 09	1,629 25	3,956 39	3,782 94	72,373 27
Summer Street.....	47,067 65	4,262 69	1,113 92	597 98	400 02	53,442 26
Warren.....	37,862 75	12,007 99	1,066 40	3,063 73	1,592 96	55,593 83
Totals.....	\$514,772 56	\$62,882 75	\$11,127 35	\$15,809 47	\$14,464 01	\$619,056 14

2. *Special Appropriations:*

BRIDGES, REPAIRS, ETC.

	1953 Payments.
CONTRACTS.	
Northern Avenue Bridge.	
Repairing end lifts, etc., General Ship & Engine Works, Inc.	\$32,628 74
Various Bridges.	
Constructing high curbs and guard rails, Martin J. Kelly Company, Inc.	17,152 50
Various Footbridges.	
Repairing, cleaning and painting, Charles A. Reynolds Company	33,751 06
Charlestown Bridge Storehouses.	
Bituminous concrete pavements, John McCourt Company	6,352 90
West Fourth Street Bridge.	
Repairing of, Martin J. Kelly Company, Inc.	12,163 67
Babson Street and Dana Avenue Bridges.	
Redecking of bridges, Martin J. Kelly Company, Inc.	12,930 70
Charlestown Bridge (over Charles River).	
Roadway repairs, D. A. Rossano Construc- tion Company, Inc.	36,967 04

West Fourth Street Bridge.

Bituminous concrete pavements, Baker & Co., Inc.	\$2,719 79
--	------------

Charlestown Bridge.

Electrical conduit and wiring on Charlestown approach, Massachusetts Electrical Construction Company	1,362 00
--	----------

Northern Avenue Bridge.

Repairs to public landing, stairway, D. A. Rossano Construction Company, Inc.	1,761 43
---	----------

Summer Street Bridge.

Repairs to bridge over Reserved Channel, James B. Rendle Company	13,393 37
--	-----------

Summer Street Bridge.

Emergency repairs to approaches (over Reserved Channel), Eastern Roads Company, Inc. (July, by settlement)	1,283 30
--	----------

Service Orders.

Charged to Bridges, Repairs, etc., repairs to various bridges	6,955 05
---	----------

City Record.

Advertising various contracts	111 30
---	--------

Total	\$179,532 85
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BRIDGES, CONSTRUCTION OF (NON-REVENUE).

Charlestown Bridge (over Charles River).

Strengthening of bridge, the Crandall Engineering Company	\$337,898 16
---	--------------

Broadway Bridge.

Constructing concrete deck, etc., Martin J. Kelly Company, Inc.	421,533 50
---	------------

Meridian Street Bridge.

Engineering services, Maguire Associates.	284,794 68
---	------------

Total	\$1,044,226 34
-----------------	----------------

After the termination of the Ferry Service on December 31, 1952, the Mayor and City Council authorized the Public Works Department to dispose of the boats, plant and all other equipment, by public auction.

After advertising in most of the important newspapers in the country and contacting by letters all others who might be interested, a public auction was held on April 15, 1953. At this auction the ferryboats "Charles C. Donoghue" and "Daniel A. MacCormack" were sold to Hughes Brothers, Inc., 17 Battery place, New York

City; the "Donoghue" for \$16,500, and the "MacCormack" for \$15,500, or a total of \$32,000.

The steel bridge drops, bridge operating machinery, gallows frames and other miscellaneous items were sold at the same time to the Heggie Corporation of Boston, for the sum of \$5,200.

Other income, derived from the sale of miscellaneous junk, return of empty oil drums, etc., amounted to \$196.70.

All final expenses and obligations connected with the Ferry Service were discharged during 1953, and amounted to \$10,338.93, which was paid from a special fund carried forward from the 1952 budget appropriation. These expenses covered the cost of fuel, electricity, gas, etc., from the time the ferries were discontinued until the final closing of the entire plant.

Throughout the year 1953, the Bridge Service operated 11 drawbridges. By late 1954 the new Meridian Street Bridge, connecting East Boston with Chelsea, should be completed and in operation. A detailed summary of the number of openings and the waterborne traffic passing through these bridges appears hereafter. It is noteworthy that as the expense of operating and maintaining these drawbridges steadily increases, the volume of cargo vessels and commercial craft is declining. Furthermore, since the breakdown of any drawbridge in this city is a potential threat to the flow of highway traffic, it becomes increasingly evident that restricted operation and, in some cases, possibly the elimination of drawbridges should be sought.

In this connection the department has petitioned the U. S. Engineers for permission to restrict the operation of Broadway and Dover Street Bridges to the hours of 8 A.M. to 4 P.M., Monday through Friday, and otherwise as may be determined by that agency to cover emergencies, etc. It is expected that this petition will be granted.

The elimination of Warren Bridge will be affected upon the completion of the Central Artery, between the Mystic Bridge connection and Haymarket square, which is expected to be accomplished by late 1954 or early in 1955.

The Chelsea South Bridge, which now serves mainly as a connection between the Mystic Docks and Charlestown for a limited volume of commercial vehicular traffic, could be eliminated by the laying out and build-

ing of Terminal street as an entrance to the docks. Some action has been started in this direction, and it is hoped that such an improvement will be executed in the reasonably near future.

The Summer Street Bridge, over Reserved Channel (formerly known as the L Street Bridge), is another example of a drawbridge serving a relatively minor volume of important waterborne traffic. Since this structure is in need of rebuilding, the possibility of constructing solid fill approaches to replace the present pile trestle construction is being considered. A study should also be made to determine the possibility of eliminating the need of a movable drawspan.

In general, the drawbridges are in poor condition. In connection with the Fort Point Channel bridges, one major improvement was accomplished in 1953 by the repairing and redecking of the Broadway Bridge.

This work, which was scheduled for completion in April, 1954, was carried on with the bridge closed to highway traffic. However, one traffic lane was kept available in case of emergency, and because of the fire which destroyed three spans of the West Fourth Street Bridge (Dover Street), on October 22, 1953, one half of the bridge was opened to one-way traffic—inbound for morning traffic and outbound for evening traffic. The bridge was so opened one day following the West Fourth Street Bridge fire, and on December 2 the bridge was opened to two-way traffic.

The work on Broadway Bridge consisted of making extensive steel repairs and replacing the original wooden underdeck with a reinforced concrete slab deck topped with bituminous pavement. The drawspan was redecked with steel mesh.

This is the type of improvement that is needed at the Dover Street Bridge, Charlestown Bridge, Northern Avenue approach spans and on various inland bridges.

The Summer Street Bridge, over Fort Point Channel, should undergo major repairs or be replaced with a new bridge, and since there is no evidence that the sugar refinery located above this bridge is going to relocate outside the channel, there is not much hope of eliminating this drawbridge. This project should be undertaken just as soon as funds are made available.

It is intended that the work of redecking the Chelsea Street and Congress Street drawspans with steel mesh pavement be contracted for in 1954, if the necessary funds are made available.

DRAW OPENINGS, 1953.

BRIDGES.	STEAMERS.			SAILING VESSELS.			TUGS.			BARGES.			ALL OTHERS.			TOTAL NUMBER, OF VESSELS.			TOTAL NUMBER, OF CARGOES.	TOTAL NUMBER, OF OPENINGS.
	Day.		Total.	Day.		Total.	Day.		Total.	Day.		Total.	Day.		Total.	Day.		Total.		
	Day.	Night.		Day.	Night.		Day.	Night.		Day.	Night.		Day.	Night.		Day.	Night.			
Broadway.....	4	0	4	0	0	0	3	0	3	0	0	0	1	1	2	8	1	9	1	5
Charlestown.....	0	0	0	0	0	0	76	56	132	139	112	251	86	30	116	301	198	499	87	367
Chelsea South.....	35	13	48	0	0	0	954	470	1,424	60	11	71	526	230	756	1,575	724	2,299	374	1,293
Chelsea Street.....	435	75	510	0	0	0	3,589	397	3,986	637	317	954	659	22	681	5,320	811	6,131	888	2,760
Congress.....	93	17	110	0	0	0	1,327	151	1,478	220	45	265	548	54	602	2,188	267	2,455	503	1,193
Dover.....	0	0	0	2	0	2	235	0	235	3	0	3	229	0	229	469	0	469	117	150
L Street*.....	0	0	0	0	0	0	322	46	368	357	38	395	395	23	418	1,074	107	1,181	310	899
Malden.....	24	1	25	0	0	0	455	72	527	502	157	659	353	47	400	1,334	277	1,611	361	1,219
Northern Avenue.....	76	26	102	0	0	0	2,249	338	2,587	251	41	292	1,346	134	1,480	3,922	539	4,461	631	2,100
Summer.....	63	38	101	0	0	0	1,036	297	1,333	142	27	169	629	121	750	1,870	483	2,353	379	1,118
Warren.....	34	23	57	20	15	35	361	143	504	721	341	1,062	1,707	669	2,376	2,843	1,191	4,034	689	2,251
Totals.....	764	193	957	22	15	37	10,607	1,970	12,577	3,032	1,089	4,121	6,479	1,331	7,810	20,904	4,598	25,502	4,340	13,355

* Now Summer Street, over Reserved Channel.

Following is a summary of the more important works undertaken by the Bridge Service in 1953:

Construction of Concrete Deck, etc., on Broadway Bridge, over Fort Point Channel.

A contract for this work was awarded to Martin J. Kelly Company, Inc., in 1952. Work started on March 2, 1953. Under the contract, the entire granite block pavement and the wood plank underdeck of the approaches was removed and disposed of. This was the original decking, installed in 1902.

The wooden decking of the drawspan was also removed.

Major repairs were made to the main steelwork throughout and a new deck constructed, consisting of a reinforced concrete roadway slab on the approaches, topped with bituminous concrete pavement. The new drawspan deck is an open steel mesh pavement. New concrete sidewalks with high curbs were built throughout the approaches and steel mesh sidewalk on the draw.

An important change on this bridge was the elimination of the trolley car rails on account of the replacement of surface trolley cars by electric buses.

As previously noted, the bridge was reopened to one-way traffic on October 23 and to full two-way traffic on December 2.

It is expected that all work will be completed well before the completion date of April 15, 1954, at an estimated final cost of \$536,127.

Strengthening the Piers of the Charlestown Bridge, over the Charles River.

Under a contract awarded to the Crandall Engineering Company in 1952, to continue the work of strengthening the pier foundations, work was started in September, 1952, and was still in progress at the end of 1953. It is expected that work will be completed early in 1954, at a cost of \$450,000, and at the close of the present contract the entire project of strengthening these piers, which began in 1951, and was continued under successive contracts with the same firm, will be completed.

As the work progressed under the current contract, it developed that the funds available would not be sufficient to carry the work to completion. Accordingly, the contract was amended, with the Mayor's approval, to provide an additional \$50,000.

*Roadway Repairs to Charlestown Bridge,
over Charles River.*

Due to the poor condition of the underdecking on the side roadways of the approach spans of this bridge, a contract was awarded to D. A. Rossano Construction Company, Inc., to make the necessary repairs. In the defective areas the granite block was removed and the wooden underdeck repaired; then the granite block was relaid and the entire roadway covered with a bituminous concrete wearing surface.

Work commenced March 30, 1953, and was completed June 25, 1953, at a cost of \$36,967.04.

*Repairing, Cleaning and Painting Various
Footbridges.*

Because of the defective condition of many of the footbridges throughout the city, a contract was awarded to Charles A. Reynolds Company to make the necessary repairs. Worn and defective stair treads were renewed with new planking or metal treads; repairing or replacing broken fence posts, railings, etc., making steel and concrete repairs wherever necessary and cleaning and painting the structures. The bridges done under this contract were B street, Glenwood avenue, and Tollgate Way (in Hyde Park); Jones avenue and Butler street (located in Dorchester); Old Harbor (in South Boston); Irvington street, Braddock park, Gainsborough street, and West Rutland square (all located in the Back Bay).

Work commenced February 16, 1953, and was completed December 17, 1953, at a cost of \$40,052.13.

Rebuilding Upstream Sidewalk of Milton Bridge.

To eliminate a hazardous condition which existed because of the very poor condition of the steelwork carrying the upstream sidewalk of this bridge, a contract was awarded to Charles Callahan Company for rebuilding the entire sidewalk structure, including all new steel members and a reinforced concrete sidewalk slab.

The work commenced March 18, 1953, and was completed November 30, 1953, at a cost of \$8,020.29. A lengthy delay in this work was caused by virtue of the fact that considerable work had to be done by the New England Telephone & Telegraph Company in connection with repairing and supporting their cable conduits, which are carried on the underside of this sidewalk.

Redecking Babson Street and Dana Avenue Bridges, over the New York, New Haven & Hartford Railroad.

On September 2, 1952, a contract was approved with Martin J. Kelly Company, Inc., for renewing the roadway surface, underdecking and sidewalk planking. Extensive steel and stringer repairs were made by the railroad company. Due to delay in obtaining lumber, work was not started until March 9, 1953, and was completed June 12, 1953, at a cost of \$15,656.17.

Repairs to Summer Street Bridge, over Reserved Channel.

Due to a failure which developed in the pilework and timbers supporting the downstream approach sidewalk of the South Boston approach, adjacent to the drawspan, a contract was awarded to James B. Rendle Company for making the necessary repairs and renewals to the piles, bracing, timbers, etc., and rebuilding approximately 100 linear feet of the sidewalk. Work was commenced on June 15, 1953, and completed July 29, 1953, at a cost of \$13,393.37.

Repairs to the Winthrop Bridge, Between Boston and Winthrop.

In conjunction with the Town of Winthrop, this department made repairs to the decking and timber work of this bridge, over Belle Isle Inlet, and reinforced the roadway under a contract with John F. Shea Company, Inc.

Work started on July 22, 1953, and it is expected that the work will be completed some time in January, 1954.

The estimated final cost is approximately \$6,000, of which the City of Boston will pay 60 per cent, or \$3,600.

Redecking the Everett Street Bridge, over the Boston & Albany Railroad.

This bridge is owned and maintained by the Boston & Albany Railroad Co., except for the wearing surface, which is maintained by this department.

Because of the advanced deterioration of the wooden decking on this bridge, it was decided to redeck with a heavier underplank and asphalt plank wearing surface.

Accordingly, a contract was awarded to Martin J. Kelly Company, Inc., in the amount of \$31,345, for performing this work. Work will not commence until about April 1, 1954.

*Repairing End Lifts, etc., of Northern Avenue Bridge,
over Fort Point Channel.*

In order to correct excessive wear on the moving parts of the end lifts and also provide the city with one complete spare set of end-lift units for the two types required on the bridge, a contract was entered into with the General Ship & Engine Works, Inc., to overhaul and repair one lift at a time, keeping the bridge in constant use except for Saturdays and Sundays. Work commenced July 8, 1952, and was completed January 23, 1953, at a cost of \$32,628.74.

*Constructing High Curbs and Guard Rails on Various
Bridges.*

Under a contract with Martin J. Kelly Company, Inc., this work was started on October 28, 1952, and was completed May 29, 1953, at a cost of \$17,152.50.

This work consisted of erecting high curbs of concrete, steel or timber on many of the bridges throughout the city, thereby establishing extra safeguards for vehicular traffic in the event that control of a vehicle is lost while passing over the bridge.

Yard Forces.

The work done by the Bridge Maintenance Forces throughout 1953, consisted of making typical minor repairs to the bridges throughout the city, including renewing defective roadway and sidewalk plank, respiking loose plank, patching, etc.

Other work consisted of repairing and painting roadway gates, fences, machinery and machinery control housings; erecting safety barricades at snow dumps, dead end locations, etc.

Repairs and renewals were made to the electrical conduit and wiring installations at the various draw-bridges. Routine operations included repairing and filling sand boxes, regulating bascule bridge counterweights and cleaning sidewalks and stairways of snow and ice in the winter season.

WORK FOR OTHER DIVISIONS.

HIGHWAY DIVISION.

Repairing Concrete Retaining Wall on Cummins Highway, West Roxbury.

The Bridge Service furnished the engineering and inspection services required to make certain repairs by guniting the wall on Cummins Highway, between Brown avenue and Sherwood street, for the Highway Section. The work was done under contract with the Gunitite Restoration Company, Inc., at a cost of \$5,515. Work started October 21, 1953, and was completed December 16, 1953.

SANITARY DIVISION.

Repairs to the Albany Street Disposal Station.

Specifications were prepared by this division for repairs to the Albany Street Disposal Station. Bids for this work were received December 29, 1953, and a contract awarded to John F. Shea Company, Inc., in the sum of \$10,150.75. No work under the contract was done this year.

MISCELLANEOUS.

Snow Removal.

Another duty of the Bridge Section of this division during the winter months was the supervising and inspecting of snow loading and removal in common with other divisions of the department. The work done by the personnel of this division was in connection with contract snow removal in Area 12, West Roxbury, and Area 13, Brighton.

SUMNER TUNNEL.

Throughout the year 1953, the Sumner Tunnel showed a continued increase in traffic volume and toll receipts, despite the fact that the movement of traffic entering and leaving the tunnel at the Boston end was at times greatly hampered by the extensive construction work being carried on in connection with the building of the Central Artery.

Because of the increase in traffic volume, four additional tollmen-guards were appointed in September

of 1953 in order to keep three traffic lanes open at each end from 8 A.M. to midnight and to have two guards on duty on the tunnel catwalk at all times.

The tunnel plant, in general, is in good condition although it will be necessary in the near future to make certain major repairs such as repairing or rebuilding the concrete platforms supporting the power transformers and repairing the tunnel invert in areas where the original concrete shows surface deterioration and spalling. There were repairs made to the tunnel roadway pavement in 1953 and it is intended to contract for such work again in 1954. The tunnel pavement, in general, is in very sound condition considering the traffic it carries. Throughout the extensive pavement repairs made in the past, the original sand cushion base has been replaced by a bituminous mastic base and this appears to have stabilized the granite block pavement in the repaired areas against settlement and movement for a much greater length of time. This practice will be continued until all of the original sand cushion has been eliminated.

A major improvement in the tunnel operating plant was made in 1953 by the installation of four new carbon monoxide analyzers to replace the original units which had become obsolete, making it extremely difficult to replace defective parts and maintain efficient operation.

All other parts of the operating plant are in good condition, including the ventilating equipment, power transformers, circuit breakers, storage batteries, generators, etc. The communication system, drainage system, pumps, motors, and toll equipment, all of which are inspected, tested, adjusted, etc., under a daily routine inspection, are repaired and overhauled as required.

Under an order from the Department of Public Utilities, Commonwealth of Massachusetts, the existing schedules of tolls and charges for the use of the Sumner Tunnel were approved for the year 1953.

CONTRACTS AWARDED IN 1953.

Repairing the Pavement in the Sumner Tunnel.

Approximately 972 square yards of granite block pavement was removed and relaid under a contract with John J. Amara at a cost of \$10,560. Work commenced on April 8, 1953, and was completed May 19, 1953.

Cleaning the Surface Drainage System of the Sumner Tunnel.

The accumulation of sand deposited on the tunnel roadway to prevent skidding conditions during the winter season and the sand, dirt, etc., brought into the tunnel by vehicles, subsequently is deposited in the surface drainage system and is removed annually under contract. The contract for 1953 was awarded to James A. Freaney, Inc.; work commenced on December 14, 1953, and was completed on December 29, 1953, at a cost of \$1,568.

Cleaning Exhaust Duct, Exhaust Fan Rooms and Fresh Air Ducts at the Sumner Tunnel.

To maintain efficiency of the ventilation system a contract is awarded annually for the removal of dust which is drawn into and deposited in the fresh air ducts and the removal of dust and carbon deposits accumulating in the exhaust ducts and exhaust fan rooms. The 1953 contract was awarded to Patrick Ross Company; work commenced on December 2, 1953, and is expected to be completed early in 1954 at a total cost of \$1,875.

The following contracts were awarded in 1953, but work will not be started until 1954:

Waterproofing the Exterior Walls and Installing a New Tar and Gravel Roof at the East Boston Vent Building of the Sumner Tunnel.

The evidence of water damage on the interior walls, steelwork, conduits, etc., has indicated a porous condition existing in the masonry comprising the exterior walls, together with the natural deterioration of the tar and gravel roof and flashings.

Owing to the fact that this building is not heated the moisture problem is very acute and necessitates prompt action to prevent further damage of this nature.

The contract was awarded to the Patrick Ross Company at a bid price of \$6,592.50.

Installing Lighting in the Exhaust Air Duct at the Sumner Tunnel.

The installation of a permanent lighting system in the exhaust air duct was deemed necessary to facilitate

working in the duct for purposes of cleaning, inspecting and repairing.

The contract was awarded to John J. Finn Company Electric Service at a bid price of \$2,746.

1953 BUDGET SUMMARY.

CREDITS:

Regular appropriation, 1953	\$570,779 48
Balance from previous year	24,679 45
Pensions	20,586 66

\$616,045 59

Less transfer by City Auditor to Debt Requirements, Interest	566 25
--	--------

Total credits \$615,479 34

DEBITS:

Expenditures, 1953 (regular budget)	\$570,740 43
Pensions	20,586 66
Balance to next year	16,591 87

Total debits \$607,918 96

Unexpended balance, December 31, 1953 \$7,560 38

SUMMARY OF 1953 TRAFFIC BY CLASSIFICATION.

Class.	Toll.	DESCRIPTION.	No. of Vehicles.
1.	\$0 20	Truck not in excess of 2 tons capacity.	
		Tractor without trailer	535,437
2.	0 20	Passenger car	10,035,016
3.	0 20	Motorcycle	4,935
4.	0 25	Truck over 2 tons and up to 5 tons capacity.	
		Tractor with trailer over 2 tons and up to 5 tons capacity	52,004
5.	0 20	Passenger car with trailer	12,983
6.	0 35	Truck over 5 tons and up to 10 tons capacity.	
		Tractor with trailer over 5 tons and up to 10 tons capacity	16,692
7.	0 20	Tractor with trailer not in excess of 2 tons capacity	2,075
8.	1 00	Truck over 10 tons capacity	3,595
9.	0 35	Bus with or without passengers	264
* City-owned			†172,673
Total traffic			10,835,674

* M.T.A. and Eastern Massachusetts Railway buses included in this classification.

† 2,376 M.T.A. and 87,009 Eastern Massachusetts Railway buses at 35 cents included in this total.

**COMPARATIVE 5-YEAR SUMMARY OF OPERATION, FROM
1949 TO 1953, INCLUSIVE.**

	1949	1950	1951	1952	1953
1. Vehicular Traffic:					
Total number vehicles...	9,162,266	9,283,700	9,466,660	9,583,972	10,835,674
Monthly average.....	763,522	773,641	788,883	798,664	902,973
Weekly average.....	176,197	178,045	182,051	184,307	208,378
Daily average.....	25,171	25,435	25,936	26,186	29,686
2. Power Consumption:					
Total kilowatts.....	4,403,936	4,331,103	4,196,904	4,582,488	4,966,604
3. Financial Results:					
Operating expenditure.	\$482,982 71	\$462,975 30	\$479,198 19	\$541,705 30	\$591,327 09
Balance to next year...	—	1,547 11	13,135 89	24,679 45	16,591 87
Interest requirements...	837,611 25	832,453 75	763,634 61	683,105 13	687,494 39
Refunded tolls.....	—	92 20	721 95	65 25	440 60
Total expenses....	\$1,320,593 96	\$1,297,068 36	\$1,256,710 64	\$1,249,555 13	\$1,295,853 95
Receipts.....	\$1,853,049 84	\$1,863,035 00	\$1,913,356 12	\$1,932,619 83	\$2,172,410 00
Balance from previous year.....	4,298 18	—	1,547 11	13,135 89	24,679 45
Total receipts....	\$1,857,348 02	\$1,863,035 00	\$1,914,903 23	\$1,945,755 72	\$2,197,089 45
Net result.....	\$536,754 06 (Excess)	\$565,966 64 (Excess)	\$658,192 59 (Excess)	\$696,200 59 (Excess)	\$901,235 50 (Excess)

HIGHWAY SECTION.

PAVING SERVICE.

SUMMARY OF BUDGET APPROPRIATIONS.

APPROPRIATION.	Total Credits.	Expenditures.	Balance Unexpended.
Paving Service	\$1,536,877 04	\$1,442,713 66	\$94,163 38
Reconstruction of Streets	129,924 26	105,800 60	24,123 66
Public Ways, Construc- tion of (Revenue)	157,500 00	157,500 00	None.
Public Ways, Construc- tion of (Non-Revenue)	3,550,834 60	2,019,055 36	1,531,779 24
Sidewalks, Construction and Reconstruction of	129,967 80	78,570 59	51,397 21
Street Signs	22,870 41	8,736 14	14,134 27
Snow Removal	403,975 68	394,551 95	9,423 73

In the Permit Office, \$66,450.22 was taken in; of this amount \$20,568.22 was deposited with the City Collector for permit fees received, \$42,262 was deposited with the City Collector for the Street Openings Account and \$3,620 was billed to the Public Service Corporations.

Under Classes No. 1 and No. 2 of the schedule of permit fees, permits were issued for openings in public ways as follows:

City Departments	1,673
Public Service Corporations (Class 1)	1,697
Public Service Corporations (Class 2)	1,708
Public Service Corporations (Class 3)	9
Public Service Corporations (Class 9)	12
	5,099

Under Classes No. 1 to No. 9 of the schedule of permit fees, permits were issued for openings and occupation in public ways as follows:

Class 1. Permits for street openings	1,242
Class 3. Occupation permits for painting, repairs to buildings, etc	2,284
Class 4. Removing snow from roof	3
Class 5. Erecting and repairing awnings	46
Class 7. Erecting and repairing signs	170
Class 8. Raising and lowering machinery	41
Class 9. Special permits	427
	4,213
Total permits issued	9,312

There are now on file 2,320 bonds protecting the City of Boston against claims that may be made on account of permits issued.

During the year a concerted effort was made to require private parties to repair artificial stone sidewalks which were damaged by driving over sidewalks and this drive is continuing. Adequate deposits were also required for replacing of openings for new water services. Permit office inspectors checked closely openings made by drain layers and required them to make roadway openings safe promptly and to replace any sidewalks damaged.

The regular forces of the Paving Service were employed as usual in the maintenance of public streets, resurfacing and patching macadam pavements, patching permanent pavements such as asphalt and granite block, and maintaining gravel, brick, and artificial stone sidewalks.

In the snow removal season, division forces were employed in spreading rock salt and sand on icy streets and also supervised plowing work throughout the city by 250 contractors' hired plows after five snowstorms. All snow removal bills for plowing, hauling, force account work, cubic yard removal, etc., were processed through the Paving Service office.

The following work was done in placing new street signs and replacing and repairing existing street signs:

- 173 new street signposts erected with frames and signs
- 19 new hero signposts erected with signs
- 825 street sign plates installed
- 124 bent or broken signposts repaired
- 169 hero signs replaced
- 622 street signposts painted
- 904 street sign frames painted
- 291 street sign frames, collars, and brackets erected
- 158 street sign frames repaired
- 241 private way signs installed

Contracts were awarded for the construction and reconstruction of 178 streets during the year and 132 of these streets were completed. Work was also completed on 33 streets which were unfinished from 1952. Contracts were awarded for the construction of artificial stone sidewalks in 46 streets and 37 of these were completed. Sidewalk work was also completed on five streets which were unfinished from 1952.

Some of the more important thoroughfares on which reconstruction work was completed in 1953 are as follows:

Annunciation road, Roxbury, from Parker street to Ruggles street.

Beacon street, City Proper, from Park street to Charles street.

Boylston street, City Proper, from Washington street to Tremont street.

Boylston street, City Proper, from Dartmouth street to Exeter street.

Centre street, West Roxbury, from Belgrade avenue to Spring street.

Chelsea street, East Boston, from Maverick square to Day square.

Devonshire street, City Proper, from Franklin street to Summer street.

Morton street, Dorchester, from railroad bridge to Harvard street.

Newmarket square, Roxbury, from Southampton street to Massachusetts avenue.

Northampton street, Roxbury, from Columbus avenue to Albany street.

Prince street, West Roxbury, from Pond street to Perkins street.

Ruggles street, Roxbury, from Washington street to Huntington avenue.

Saratoga street, East Boston, from McLellan Highway to Bennington street.

South street, West Roxbury, from Centre street to Arborway.

Theodore A. Glynn Way, Roxbury, from Southampton street to Massachusetts avenue.

Washington street, West Roxbury, from Hyde Park avenue to West Roxbury Parkway.

The following is a list of streets constructed and reconstructed and sidewalk work done by contract in the various wards of the city in the year 1953:

WARD 1 — Crestway road, Faywood avenue, Putnam street, Saratoga street, Decatur street (sidewalks), Chelsea street (chapter 90), Sea View avenue (sidewalks), Barnes avenue. Total cost, \$216,418.25.

WARD 2 — Charles River avenue. Total cost, \$5,917.60.

WARD 3 — Boylston street (W-T), Devonshire street, Bradford street, Pearl street, Acton street, Wilkes street, Hancock street, Somerset street, Summer street (platform removal). Total cost, \$33,812.12.

WARD 4 — Boylston street (D-E), Boylston street (H-D), Autumn street, Pilgrim road, Plymouth street, Annunciation road, Ruggles street, Huntington Avenue Underpass, Public Alleys Nos. 402, 404, 405, 820, Stanhope street, West Canton street, Worcester street, Trinity place, Louis Prang street, Clarendon street, Peabody street. Total cost, \$124,952.14.

WARD 5 — Kilmarnock street, Charles street (sidewalks), River street (sidewalks), Beacon street, Brimmer street, Lime street, Boylston street (D-E), Chestnut street (sidewalks), Boylston street (H-D), Public Alleys Nos. 414 to 429, inclusive, Albion street, Phillips street, Mt. Vernon street, Berkeley and Marlborough streets (sidewalks), Hereford street (sidewalks), River Street (cutback), Chestnut street (sidewalks). Total cost, \$133,096.29.

WARD 6 — Burnham place, Silver street (sidewalks), Northern avenue (sidewalks, bumper and fence), East Fifth street, Silver street, West Fourth street, West Fifth street (sidewalks), Gold street (sidewalks), Dorchester avenue, Gillette park, P street (sidewalks). Total cost, \$36,808.57.

WARD 7 — Dexter street, Gates street, Quincefield street, Wendeller street, Old Harbor street (sidewalks), Norfolk avenue, Bowen street (sidewalks), Covington street (sidewalks), Dixfield street (sidewalks), Douglas street (sidewalks), Gold street (sidewalks), Hamlin street (sidewalks), Knowlton street (sidewalks), Mercer street (sidewalks), Tudor street (sidewalks), West Fifth street (sidewalks), Columbia road (sidewalks), Mt. Vernon street (sidewalks), Gates street (sidewalks). Total cost, \$41,333.38.

WARD 8 — Northampton street, Mystic street, Norfolk avenue, Shirley street, Proctor street, Eustis street, Island street, Perch street, Pike street, Theodore A. Glynn Way, Newmarket square. Total cost, \$177,088.43.

WARD 9 — Northampton street, Ruggles street, Whittier street, Cabot street (sidewalks), Tremont street (sidewalks), Columbus avenue (sidewalks), Putnam street (sidewalks), Auburn street, Hammond street (sidewalks), Hubert street, Kendall street (sidewalks), Warwick street, Weston street. Total cost, \$129,692.54.

WARD 10 — None.

WARD 11 — Hawthorne street, Kensington street, Vale street, Stedman street, Columbus avenue (sidewalks), South street (chapter 90), Forest Hills street. Total cost, \$59,521.16.

WARD 12 — Kensington street, Blue Hill avenue (sidewalks). Total cost, \$3,837.83.

WARD 13 — Bay street, Annapolis street, Kevin road. Total cost, \$10,590.54.

WARD 14 — Drummond street, McLellan street, Oldfields road, Morton street (chapter 90), Franklin Hill avenue. Total cost, \$123,724.25.

WARD 15 — Bay street, Winter street. Total cost, \$8,633.53.

WARD 16 — Hallet street, Marsh street, Arbroth street, Laban Pratt road, Rita road, Rosemont street, St. Brendan road, Ashmont court, Carlotta street, Christopher street, Presley road, Westglow street (sidewalks), Adams street (sidewalks), Salina road, Dorchester avenue (sidewalks). Total cost, \$103,337.14.

WARD 17 — None.

WARD 18 — Colorado street, Wakefield avenue, Highland street, Williams avenue, Poplar street, Pond street, Massasoit street, Milton avenue, Summit street, Washington street (chapter 90), Gordon avenue, Mulvey street, Glendower road. Total cost, \$245,683.76.

WARD 19 — Lorene road, South street (chapter 90), Perkins street, Prince street, Washington street (chapter 90), Asticou road, Avon street, Goldsmith street, Wachusett street, Moss Hill road. Total cost, \$198,314.27.

WARD 20 — Manthorne road, Tafthill terrace, Chapin avenue, Greateon road, Esther road, Martin street, Basto terrace, South and Robert streets (island), Alberta street, Latin road, Woodard road, Saville street, Baker street (widening), Westbourne street, Willow street (sidewalks), Garth road, Gould street, Hackensack Circle, Laurie avenue, Maplewood street, Pheasant street, Ferncroft road, Keane road, Rustlewood road, Stearns road, Centre street, Courtney road, Hollywood road, Centre street (sidewalks), Bertson avenue, Burard street, Keith street, Sherbrook street, Thurlow street, Wolfe street, Brookfield street, Washington street (chapter 90). Total cost, \$401,603.72.

WARD 21 — Mountfort street, Park Drive. Total cost, \$16,279.19.

WARD 22 — Faneuil street (sidewalks), Hobson street (sidewalks), Rev. J. J. Murphy Footway, Shannon street, Windom street. Total cost, \$39,165.35.

PAVING SERVICE.

WORK DONE BY CONTRACT IN 1953.

ITEM	Quantity	Unit
Earth and services excavation	80,127	cubic yards.
Rock and wall excavation	3,027	cubic yards.
Bank gravel	79,539	tons.
Crushed stone for edgestone	3,021	tons.
Base removed	12,127	square yards.
Pavement removed	82,115	square yards.
New straight edgestone	37,533	linear feet.
New circular edgestone	5,211	linear feet.
2-foot corners	925	each.
Edgestone reset	49,800	linear feet.

Edgestone hauled to city yards	10,163 linear feet.
Macadam base	16,681 tons.
OA asphalt	162,908 gallons.
Concrete base	3,152 cubic yards.
Concrete for backing up sidewalks	38 cubic yards.
Bituminous concrete base (roadway)	34,097 tons.
Bituminous concrete top (roadway)	19,761 tons.
Bituminous concrete base (sidewalk)	2,004 tons.
Bituminous concrete top (sidewalk)	1,846 tons.
Sheet asphalt top	6,955 tons.
Artificial stone sidewalks	751,370 square feet.
Artificial stone driveways	51,769 square feet.
Loam spaces	1,937 square yards.
Covers reset	2,859 each.
Bradley heads reset	17 each.
Brick courses	4,893 each.
Catch basins or manholes rebuilt	87 each.
Catch basins or drop inlets built	44 each.
Signposts set or reset	133 each.
Stone bounds	194 each.

YEARLY REPORT OF WORK DONE BY DEPARTMENT FORCES FOR 1953.

Brick sidewalks, laid and relaid	7,014 square yards.
Gravel sidewalks, relaid	1,034 square yards.
Artificial stone sidewalks, laid (new)	18,440 square feet.
Artificial stone sidewalks, relaid (old)	178,386 square feet.
Bituminous concrete sidewalks	9,892 square yards.
Block gutters, laid	5 square yards.
Granite block roadway, laid	202 square yards.
Artificial stone sidewalks, patched with blacktop	9,214 square feet.
Edgestone reset (old)	5,919 linear feet.
Macadam roadway patched	152,091 square yards.
Macadam roadway resurfaced	8,964 square yards.
Street cleaning	3,168 cubic yards.
Snow removal	31,663 cubic yards.

PAVING SERVICE, 1953.

Street Cleaning	\$36,360 43
General Highway Expenditures	994,143 74
Sidewalk and Curbing	333,668 94
Snow and Ice Removal	59,468 56
Street Signs	19,071 99

\$1,442,713 66

Objects of Expenditures from Maintenance Appropriation, Classified by Districts, from January 1, 1953,
to December 31, 1953.

DISTRICTS.	Street Cleaning.	General Highway Expenditures.	Sidewalks and Curbing.	Snow and Ice Removal.	Street Signs.	Total.
South Boston.....	\$7,569 08	\$53,298 20	\$29,729 77	\$4,322 21	\$219 15	\$95,138 71
East Boston.....	8,460 12	50,160 57	22,550 01	7,539 92	.....	88,710 92
Charlestown.....	2,664 69	11,373 50	9,131 80	1,738 85	102 10	55,310 94
Brighton.....	4,621 68	82,631 46	20,092 58	10,307 94	27 20	117,080 86
Roslindale.....	1,226 57	56,895 24	32,465 71	4,249 36	.....	94,836 88
Dorchester.....	1,913 01	61,113 34	31,735 68	5,130 69	.....	99,892 72
Roxbury.....	1,538 56	59,960 26	48,317 27	5,499 94	256 50	115,572 53
City Proper.....	180 50	100,001 43	59,769 33	6,613 49	18,466 74	185,031 49
Ashmont.....	8,185 92	61,563 65	37,596 87	6,789 92	.....	114,086 36
Hyde Park.....	.....	34,441 22	20,172 98	3,709 42	.....	58,323 62
West Roxbury.....	.....	41,437 72	21,856 94	3,566 82	.....	66,861 48
General.....	.....	351,207 15	.....	.....	.....	351,207 15
Totals.....	\$36,360 43	\$994,143 74	\$333,668 94	\$59,468 56	\$19,071 99	\$1,442,713 66

Special Appropriations: Public Ways, Construction of (revenue), \$157,500; Public Ways, Construction of (non-revenue), \$2,019,055.36; Snow Removal, \$394,551.95; Sidewalks, Construction of, \$78,570.59; Reconstruction of streets, \$103,800.60; Street signs, \$8,736.14. Total Specials, \$2,764,214.64.

TABLE SHOWING LENGTH AND AREA OF PAVING ON ACCEPTED STREETS, CORRECTED TO JANUARY 1, 1954.

	LENGTH IN MILES.											AREA IN SQUARE YARDS.										
	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank or Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.	Sheet Asphalt.	Asphalt Concrete.	Granite Block.	Wood Block.	Plank or Bridges.	Brick.	Concrete.	Macadam.	Gravel.	Not Graded.	Totals.
Year 1952 Report.....	*247.10	†257.85	‡39.36	0.28	0.47	0.51	\$21.61	‡149.82	9.90	0.97	727.87	*4,993,589	†4,928,402	‡1,010,403	6,301	11,524	11,405	\$413,720	‡2,411,511	149,458	31,493	13,967,806
Per Cent.....	33.95	35.43	5.41	0.04	0.06	0.07	2.97	20.58	1.36	0.13	100.00	35.75	35.28	7.23	0.05	0.08	0.08	2.96	17.27	1.07	0.23	100.00
January 1, 1954.																						
City Proper.....	51.55	27.23	10.75	0.07	0.10	0.31	3.00	3.00	0.26	.....	96.27	1,141,530	606,617	233,269	487	3,623	4,398	96,224	45,808	1,786	.....	2,133,742
Charlestown.....	4.91	4.97	6.39	0.08	0.04	.....	0.79	5.43	0.03	0.01	22.65	97,677	84,943	166,049	2,011	1,701	.....	13,360	75,302	407	41	441,491
East Boston.....	3.13	19.44	4.41	0.01	0.05	0.02	1.36	9.77	0.12	0.07	38.38	67,162	445,472	96,499	325	777	393	46,350	211,459	2,343	1,486	872,266
South Boston.....	12.36	13.88	7.35	0.01	0.06	0.02	0.54	9.21	0.14	0.50	44.07	264,203	265,226	213,187	642	1,737	1,378	23,012	153,454	1,560	15,754	940,153
Roxbury.....	42.86	29.48	3.40	.....	.....	0.14	5.08	13.02	0.55	0.00	94.53	855,011	539,795	68,707	47	.....	2,541	78,732	207,212	8,413	27	1,760,485
West Roxbury.....	40.38	67.78	1.22	.....	0.04	.....	4.33	35.97	3.71	0.00	153.43	736,559	1,246,993	45,164	.....	983	.....	60,871	571,412	56,206	5,390	2,723,578
Dorchester.....	58.37	69.72	0.61	0.06	0.04	0.01	5.44	36.76	1.25	0.61	172.87	1,108,874	1,279,117	31,932	1,669	770	145	87,155	571,160	17,862	24,477	3,123,161
Brighton.....	22.20	29.13	0.30	.....	0.08	.....	1.23	12.04	0.53	.....	65.51	499,411	557,032	25,916	.....	1,231	.....	30,443	193,018	7,657	50	1,314,758
Hyde Park.....	9.29	15.17	0.00	0.01	0.03	.....	0.64	17.77	5.86	0.20	48.97	171,317	298,391	6,318	186	442	.....	10,086	297,003	90,365	4,506	878,614
Total.....	245.05	276.80	34.43	0.24	0.44	0.50	22.41	142.97	12.45	1.39	736.68	4,941,744	5,323,586	887,041	5,367	11,264	8,855	446,233	2,325,828	186,599	51,731	14,188,248
Per Cent.....	33.27	37.57	4.67	0.03	0.06	0.07	3.04	19.41	1.69	0.19	100.00	34.83	37.52	6.25	0.04	0.08	0.06	3.15	16.39	1.32	0.36	100.00

TOTAL PUBLIC STREETS 736.68 MILES.

NOTE.— In the above table the city is subdivided substantially on the boundary lines between the districts as they existed when annexed to Boston. Territory annexed from Brookline included in City Proper.

* Of this amount 0.09 mile or 810 square yards is Bitumuck.

† Of this amount 0.02 mile or 155 square yards is cobble; and 20.75 miles or 649,300 square yards is granite block paving on concrete base.

‡ Of this amount 0.06 mile or 405 square yards is Blome granitoid concrete block.

§ Of this amount 124.30 miles or 2,046,146 square yards is bituminous macadam.

† Of this amount 72.37 miles or 1,429,217 square yards is bitulithic; and 3.09 miles or 50,514 square yards is Topoka; and 0.06 mile or 920 square yards is Filbertine; and 0.11 miles or 1,533 square yards is Sinasco; and 0.03 miles or 595 square yards is Carey Elastite Asphalt Plank; and 0.06 miles or 518 square yards is Johns-Manville Asphalt Plank; and 1.61 miles or 50,590 square yards is Tar Concrete.

6.72 miles or 37,001 square yards public alleys included in this table; 7.51 miles or 334,570 square yards public streets in charge of Park Department included in this table; 9.80 miles or 323,305 square yards public streets in charge of Commonwealth of Massachusetts included in this table. In addition to this table there are 2.27 miles or 11,030 square yards of accepted footways.

LIGHTING SERVICE.

Financial Statement.

Total credits for 1953	\$1,365,581 10
Expenditures	1,349,451 99
Unexpended	<u>\$16,129 11</u>

Expenditures.

Boston Edison Company .	\$1,123,586 75	
Boston Consolidated Gas Company	99,446 07	
		<u>\$1,223,032 82</u>
Gas Lighting:		
American Service Company	\$83,222 16	
Boston Consolidated Gas Company	14,591 02	
		<u>97,813 18</u>
Construction:		
Installing, removing and relocating lamps	\$17,397 47	
		<u>17,397 47</u>
Salaries	\$11,097 50	
		<u>11,097 50</u>
Office expense:		
Printing and postage	\$111 02	
		<u>111 02</u>
Total	\$1,349,451 99	

The following is a statement of work done by the Lighting Service during the year of 1953 under the direction of the Division Engineer.

Mercury Vapor Lamps.

Electric lamps of 2,000 c.p. were installed on Columbus avenue (6), Roxbury.

Electric lamps of 15,000 c.p. were installed on Haymarket square (3), City Proper. Massachusetts avenue (1), Roxbury. Centre street (3), West Roxbury.

Incandescent.

Electric lamps of 1,000 c.p. were installed on Nottingham road (1), Brighton. Albany street (1), Arlington

street (1), Braddock park (1), Berkeley street (2), Summer street (2), City Proper. Dorchester avenue (3), Dorchester. Dudley street (1), Humboldt avenue (2), Blue Hill avenue (1), Worthington street (1), Roxbury. South street (1), Spring street (6), Belgrade avenue (1), Weld street (1), Maple street (1), West Roxbury.

Electric lamps of 600 c.p. were installed on Kingsdale street (1), Dorchester. Belgrade avenue (3), West Roxbury.

Electric lamps of 400 c.p. were installed on Pierce street (1), Hyde Park. Harold street (2), Harrishof street (1), Lamartine street (2), Roxbury.

Electric lamps of 250 c.p. were installed on Tileston street (1), City Proper. Chaucer street (2), East Boston. Arlington street (1), Truman Highway (4), Hyde Park. Schuyler street (1), Greenville street (1), Perch street (1), Pike street (1), Castlegate street (4), Waverly street (1), Roxbury. Walter street (1), West Roxbury.

Electric lamps of 100 c.p. were installed on Allen road (1), Armington street (1), Dustin street (1), Harvard place (1), Harvester street (1), Islington street (1), Leicester street (2), Litchfield street (1), Murdock street (1), Oakland street (3), Parsons street (1), Reservoir road (2), Shepard street (1), Strathmore road (1), Brighton. Bellevue street (2), Bernard street (2), Brinsley street (2), Estes avenue (1), Fox street (1), Homes avenue (2), Humphreys street (1), King street (1), Maryknoll street (1), Whitney park (2), Whittemore street (1), Willow court (2), Dorchester. Waldemar avenue (1), East Boston. Alwin court (1), Alwin place (1), Alwin street (3), Arlington street (1), Ayles road (1), Cranmore road (3), Easton avenue (2), Forest street (2), Halsey road (4), Madison street (1), Neponset avenue (1), Newacre road (2), Providence street (1), Stanbro street (1), Van Brunt street (2), Westminster street (1), Willow street (1), Hyde Park. Dacia street (3), Dana street (2), Decatur avenue (2), Elmwood street (1), Hollander street (4), Humphreys street (1), Robey street (1), Ingleside street (2), Woodcliff street (1), Roxbury. Silver street (2), Viking street (1), South Boston. Ansonia road (3), Buchanan road (3), Conry Crescent (2), Garnet road (1), Gilmore terrace (1), Gloria road (1), Goldsmith street (1), Hackensack road (1), Keane road (5), March avenue

(1), Redgate road (1), Riverview street (1), Stony Brook road (2), Wedgemere road (1), Zamora court (1), West Roxbury.

Electric Fire Alarm lamps of 2-200 lumens were installed on Dudley street (1), Geneva avenue (1), Dorchester. Bennington street (4), East Boston. Hammond street (1), Dudley street (1), Harrishof street (1), Roxbury. A street (1), South Boston. Beech street (1), West Roxbury.

Gas Lamps.

A major portion of the work done in 1953 was the conversion of 104 streets principally in the Roxbury and Dorchester areas from old obsolete gas lamps to modern directional luminaires.

This work progressed satisfactorily and resulted in a decrease of vandalism and attacks in the areas converted. A total of 590 gas lamps were removed and replaced with 2500 or 1000 lumen lamps.

Modernization.

Another important aspect of the street lighting for 1953 was the conversion of obsolete ornamental lighting units to directional mercury vapor lights in various business areas in the city. This installation of the latest and newest type of lighting in these areas was responsible for increased business and subsequent decrease in pedestrian and automotive accidents and fatalities.

The following areas or streets were converted to mercury vapor lighting:

Summer street, City Proper . . .	10-20000 Lumen lamps
Tremont street, City Proper . . .	16-20000 Lumen lamps
Washington street, City Proper . . .	30-20000 Lumen lamps
Columbus avenue, Roxbury . . .	6-20000 Lumen lamps
Market street, Brighton . . .	22-15000 Lumen lamps
Boylston street, City Proper . . .	4-15000 Lumen lamps
Dorchester avenue, City Proper . . .	3-15000 Lumen lamps
Surface roadway (Nashua street), City Proper . . .	12-15000 Lumen lamps
Tremont street, City Proper . . .	3-15000 Lumen lamps
Meridian street, East Boston . . .	8-15000 Lumen lamps
Columbus avenue, Roxbury Cross- ing . . .	17-15000 Lumen lamps
South street, Jamaica Plain . . .	20-15000 Lumen lamps
South street, West Roxbury . . .	6-15000 Lumen lamps
Washington street, West Roxbury . . .	79-15000 Lumen lamps

In the following business and residential areas or streets, new lighting or additional lighting to supplement existing lighting was installed.

The new lighting and additional lighting has resulted in a decrease in vandalism and crime.

The following areas or streets were converted to new or additional lighting, of modern incandescent lightings.

Broadway Bridge, City Proper	1-15000	Lumen lamps
Market street, Brighton	4-10000	Lumen lamps
Washington street, Brighton	23-10000	Lumen lamps
Dorchester avenue, Dorchester	4-10000	Lumen lamps
Morton street, Dorchester	24-10000	Lumen lamps
Morton street, Dorchester (twin)	7-10000	Lumen lamps
Broadway Bridge, City Proper	3- 6000	Lumen lamps
Hancock and Derne streets, City Proper	6- 6000	Lumen lamps
Marlborough street, City Proper	1- 6000	Lumen lamps
Salem street, City Proper	1- 6000	Lumen lamps
Franklin Field Housing, Dorchester	13- 6000	Lumen lamps
New Market Terminal Area, Roxbury	11- 6000	Lumen lamps
Hancock and Temple streets, City Proper	3- 4000	Lumen lamps
Mount Vernon street, City Proper	1- 4000	Lumen lamps
Orchard Park, Roxbury	10- 4000	Lumen lamps
Walden street, Roxbury	6- 4000	Lumen lamps
Hancock and Temple streets, City Proper	3- 2500	Lumen lamps
Marlborough street, City Proper	4- 2500	Lumen lamps
Salem street, City Proper	7- 2500	Lumen lamps
Allandale street, West Roxbury	17- 2500	Lumen lamps
Poplar street, West Roxbury	9- 2500	Lumen lamps

APPENDIX C.

REPORT OF THE DIVISION ENGINEER OF
THE SANITARY DIVISION.

BOSTON, January 2, 1954.

To the Commissioner of Public Works.

DEAR SIR:

Herewith, I submit a statement of the expenditures, costs and activities of the Sanitary Division of the Public Works Department for the year ending December 31, 1953:

The total cost of operation of the Sanitary Division for 1953 is as follows:

Budget expenditures	\$5,105,598 82
Paid in 1954	13,458 00
Motor vehicle cost	285,744 59
Total cost	\$5,404,801 41

The cost of operation of this division was obtained by adding the cost of motor vehicle operation, as submitted by the Automotive Division, to the budget expenditures of the Sanitary Division.

The cost, recapitulated and compared with the previous year (1952) is shown as follows:

ITEM.	1953.	1952.	Decrease.	Increase.
Waste collection and disposal..	\$3,062,477 70	\$3,061,918 96	.....	\$558 74
Street cleaning.....	2,312,433 80	2,431,926 58	\$119,492 78	
Preventive street cleaning.....	29,889 91	44,542 82	14,652 91	
Totals.....	\$5,404,801 41	\$5,538,388 36	\$134,145 69	\$558 74
	.....	5,404,801 41	558 74	
Net decrease.....	.....	\$133,586 95	\$133,586 95	

The general over-all decrease in Sanitary Division costs amounted to \$133,586.95.

There were decreases in the following listed items:

Permanent employees	\$87,230 10	
Overtime	12,821 08	
Removal and disposal of waste	14,409 96	
Public Works supplies	37,867 06	
Automotive equipment	12,411 70	
Electrical and mechanical machinery	6,217 63	
Other	7,018 51	
		<hr/> \$177,976 04

There were increases in the following listed items:

Purchase of land	\$1,875 00	
Various contractual services	4,413 53	
Building supplies and materials	2,186 78	
Motor vehicle costs	17,451 83	
Paid in 1954	13,458 00	
Other	5,003 95	
		<hr/> \$44,389 09
Net decrease		<hr/> <u>\$133,586 95</u>

Personnel changes in permanent force during the year 1953:

Total personnel January 1, 1953	*754	
Transfers in (from other departments and divisions)	6	
Reinstatements	2	
		<hr/> 8
		762
Deaths	13	
Resignations	6	
Retirements	38	
Transfers out (to other departments and divisions)	19	
Discharged or terminated	2	
		<hr/> 78
Total personnel January 1, 1954	*684	

* Includes two military leaves of absence.
Total net loss of 70 employees.

1. *Closed Trucks.*—For the first time, alternate bids in the proposals for the collecting and removing of garbage and refuse in the various districts were received for the period beginning April 1, 1953. As a result, closed trucks were used in seven of the districts. Collection contracts for more than one year were awarded for the first time. There were two contracts for three years each, and three contracts for two years each. These

contracts required the use of closed trucks. There were also two one-year contracts specifying closed trucks.

2. *Filling South Bay.*—The filling of slips and the turning basin in the South Bay area was begun, and much valuable land was thus made.

3. *Gardner Street Dump.*—A new dump was started in the West Roxbury district on land acquired by the city.

4. *Filling at Mile Road Dump.*—A further extension of dumping facilities on Mt. Vernon street was provided by the filling in of flats.

5. *Disposal Contract.*—On March 31, 1953, the contract with the Coleman Disposal Company was ended. As a result of advertised bids, a new contract was awarded to the M. DeMatteo Construction Company. This contract provided for an interim period of three months, during which the new contractor was able to acquire scows and other equipment necessary to do the job. The contract also contained a penalty clause for the period during which dumping into scows was suspended. On the other hand, during this period, it was necessary for the city to award additional payments, to the collection contractors tributary to the disposal contract, for extra haulage to various land dumps. Also, the city had to pay for additional dumping privileges at several locations. On balance, however, there was a considerable cash advantage to the city during this period.

6. *Incinerator Location.*—Negotiations were still in progress in regard to the acquisition of land from the Commonwealth of Massachusetts, but were not concluded. This, together with uncertainty regarding the location of the Central Artery highway, is still holding up the construction of an incinerator in the South Bay area.

7. *Automotive Equipment.*—The Sanitary Division acquired, during the year 1953, three motor-driven street sweepers, and two front end bucket loaders.

8. *Purchase of Land.*—Land at Forest Hills was purchased from the Metropolitan Transit Authority for a district yard to replace quarters at Child street, Jamaica Plain, which are to be vacated by the Sanitary Division.

Respectfully submitted,

ADOLPH J. POST,
Division Engineer.

TABLE I.
Total Cost of Collection and Disposal of Refuse by Contract in City of Boston, and Cost Per Cubic Yard.

CONTRACT DISTRICT.	CONTRACTOR.	CHARACTER OF REFUSE.	Cubic Yards.	Cost Per District.	Cost Per Cubic Yard.	Population.	Total Cost Per Capita.
1. South Boston.....	(First 3 months.) Ward General Contracting Company..	Mixed refuse.....	113,658				
	(Last 9 months.) James A. Freaney, Inc.....	Garbage.....	3,718				
		Totals.....	117,376	\$235,369 70	\$2 005	55,665	\$4 228
2. East Boston.....	Edward J. McHugh & Son	Mixed refuse.....	88,570				
		Garbage.....	2,440				
		Totals.....	91,010	\$138,486 68	\$1 521	50,086	\$2 765
3. *Charlestown.....	(First 3 months.) Edward J. McHugh & Son	Mixed refuse.....	39,367				
	(Last 9 months.) Milano Brothers, Inc.....	Garbage.....	—				
		Totals.....	39,367	\$85,831 33	\$2 180	24,244	\$3 540
4. †Brighton.....	(First 3 months.) Anthony J. Ryan, Inc.....	Mixed refuse.....	180,000				
	(Last 9 months.) Frank J. Cavaliere.....	Garbage.....	6,865				
		Totals.....	186,865	\$322,189 32	\$1 724	72,475	\$4 446
5A. West Roxbury.....	(First 3 months.) John J. Moore Company, Inc.....	Mixed refuse.....	78,147				
	(Last 9 months.) Peerless Contracting Company.....	Garbage.....	11,562				
		Totals.....	89,709	\$141,434 96	\$1 576	49,279	\$2 870

5B. Jamaica Plain.....	John J. Moore Company, Inc.....	Mixed refuse.....	83,560	\$132,154 08	\$1 485	39,243	\$3 368
		Garbage.....	5,415				
		Totals.....	88,975				
6A. †Dorchester, North.....	Coleman Brothers Corporation.....	Mixed refuse.....	181,686	\$314,793 99	\$1 570	90,550	\$3 476
		Garbage.....	18,703				
		Totals.....	200,389				
6B. †Dorchester, South.....	Coleman Brothers Corporation.....	Mixed refuse.....	201,471	\$362,414 93	\$1 549	103,149	\$3 514
		Garbage.....	32,453				
		Totals.....	233,924				
7A. †Elm Hill.....	(First 3 months.) Coleman Brothers Corporation..... (Last 9 months.) Charles A. Callahan.....	Mixed refuse.....	41,246	\$68,118 69	\$1 557	22,323	\$3 052
		Garbage.....	2,500				
		Totals.....	43,746				
7B. *Dudley.....	(First 3 months.) Marinucci Brothers & Co., Inc..... (Last 9 months.) M. De-Matteo Construction Company..	Mixed refuse.....	57,416	\$125,238 64	\$2 087	39,833	\$3 144
		Garbage.....	2,584				
		Totals.....	60,000				
7C. *Mission Hill.....	Marinucci Brothers & Co., Inc.....	Mixed refuse.....	57,888	\$127,278 86	\$2 049	32,324	\$3 038
		Garbage.....	4,225				
		Totals.....	62,113				

TABLE I.—Concluded.

Total Cost of Collection and Disposal of Refuse by Contract in City of Boston, and Cost Per Cubic Yard—Concluded.

CONTRACT DISTRICT.	CONTRACTOR.	CHARACTER OF REFUSE.	Cubic Yards.	Cost Per District.	Cost Per Cubic Yard.	Population.	Total Cost Per Capita.
7D. *Roxbury.....	(First 3 months.) Mainucci Brothers & Co., Inc.....	Mixed refuse.....	73,000				
	(Last 9 months.) M. DeMatteo Construction Company..	Garbage.....	5,712	\$183,815 83	\$2 335	43,883	\$4 189
		Totals.....	78,712				
9. *South End.....	Anthony J. Ryan, Inc.....	Mixed refuse.....	73,000				
		Garbage.....	—				
		Totals.....	73,000	\$199,591 23	\$2 734	50,582	\$3 946
9A. *Back Bay.....	Dooley Brothers, Inc.....	Mixed refuse.....	61,859				
		Garbage.....	—				
		Totals.....	61,859	\$109,012 06	\$1 762	30,476	\$3 577
9B. *Stuart.....	Capitol Contracting Company.....	Mixed refuse.....	74,116				
		Garbage.....	—				
		Totals.....	74,116	\$131,046 94	\$1 768	23,818	\$5 502

10. *North and West Ends.....	(First 3 months.) James A. Freaney, Inc.....	Mixed refuse.....	158,471			
		Garbage.....	5,958			
		Totals.....	164,429	\$305,452 83	\$1 857	47,782
	(Last 9 months.) Ward General Contracting Company....					\$6 393
11. Hyde Park.....		Mixed refuse.....	43,644			
		Garbage.....	5,046			
		Totals.....	48,690	\$80,247 63	\$1 648	25,732
						\$3 119
Totals.....		Mixed refuse.....	1,607,099			
		Garbage.....	107,181			
		Totals.....	1,714,280	\$3,062,477 70	\$1 786	801,444
						\$3 821

* Disposal of garbage and refuse to Coleman Disposal Company for first three months of 1953, and to M. DeMatteo Construction Company for last nine months of 1953.

† Disposal of garbage only to Kennedy Brothers.

‡ Disposal of rubbish only to Coleman Disposal Company for first three months of 1953, and to M. DeMatteo Construction Company for last 9 months of 1953.

TOTAL SANITARY DIVISION BUDGET EXPENDITURES — 1953

\$5,105,598.82

REFUSE REMOVAL AND DISPOSAL CONTRACTS

\$2,625,147.64

\$82,254.05

PERSONNEL

\$2,398,197.03

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APPENDIX D.

REPORT OF THE DIVISION ENGINEER OF
THE SEWER DIVISION.

BOSTON, January 2, 1954.

To the Commissioner of Public Works.

DEAR SIR:

I submit herewith statement of the activities and expenditures of the Sewer Division for the year ending December 31, 1953.

Expenditures During 1953.—The activities of the Sewer Division during the year consisted of sewer construction at a contract cost of \$649,947.04, as shown on attached schedule of the work done, and the maintenance and operation of the sewer system at a cost of \$812,988.08.

Contract Work.—Contract work consisted of the extension of the sewer system to provide drainage for new buildings and street construction and to eliminate cesspools, the locations and cost of which are attached.

Maintenance Work.—Maintenance work consisted of the cleaning of 2,647 catch basins by contract and 4,354 by yard forces, the freeing of stopped sewers and catch basins, and the repair of sewers, manholes, and catch basins by the yard forces, and the operation of the pumping station and disposal works, the cost of which is attached.

Covering in Open Brooks.—A contract has been awarded to relocate and enclose Stony Brook in a conduit, for a length of about 4,200 linear feet, from the end of the existing conduit at the former line between West Roxbury and Hyde Park to opposite Willow avenue, at an estimated cost of \$412,830. It is anticipated that the work will be completed early in 1954.

The most interesting feature of the work was the successful completion of the jacking of 84-inch diameter reinforced concrete pipe under Hyde Park Avenue and under the roadbed of the New York, New Haven & Hartford Railroad.

Plans are being prepared to complete the relocation and the enclosing of Stony Brook in a conduit from Willow avenue to Bald Knob road, a distance of about 5,320 linear feet, including the enclosing of Myopia Brook and incidental surface drains, and about 1,250 linear feet of Providence Street Brook in a conduit, at an estimated cost of \$422,500.

Proposed Construction Work.—The work of extending the sewer system to provide drainage for new street construction, new building construction and the elimination of cesspools will continue for many years in the future, and probably at the same rate as in the past. In addition, a long-range sewerage works program provides for the extension of main line surface drain conduits and the rebuilding of several miles of very old sewers that have settled or outlived their economic usefulness. Details of the long-range program are contained in a report on file in the Sewer Division.

Special Problems.—In an effort to exclude excessive quantities of tidewater from entering the main drainage system considerable maintenance work has been done on the tide gates. Plans are being prepared to replace the original wooden, sidehung tide gates on storm overflows adjacent to the west side interceptor with top hung metal tide gates. It is anticipated that this contract will be advertised early in 1954, at an estimated cost of \$10,000. It is also anticipated that during 1954 a contract will be advertised for renewing the main entrance sluice gates at the Calf Pasture Pumping Station, the need for the work being described in the 1951 annual report.

The Sewer Division Labor Force consists of the following: 22 laborers, 2 carpenters, 31 motor equipment operators and laborers, 10 catch-basin machine operators, 5 tide-gate repairmen, 6 working foremen sewer cleaners, 20 sewer cleaners, 5 bricklayers, 1 working foreman motor equipment operator, 5 yardmen, 1 heavy motor equipment operator, 6 sewer district foremen, and 1 main drainage foreman. This makes a total of 115 men assigned to answering complaints, cleaning catch basins, cleaning sewers, repairs to manholes and catch basins, repairing broken sewers, and other related work.

Length of Sewers Built.—During the fiscal year 1953 there were built by contractors and day labor 7.38 miles of common sewers and surface drains throughout the city. After deducting 0.60 miles of sewers and surface

drains rebuilt or abandoned, the net increase for 1953 is 6.78 miles, which added to the existing 1,265.04 miles of common sewers and surface drains and 30.93 miles of intercepting sewers, makes a grand total of 1,302.75 miles of all sewers belonging to the City of Boston, and under the care of the Sewer Division on January 1, 1954.

There were 320 catch basins built or rebuilt and 14 abandoned or removed during the year, making a net gain of 306 catch basins and a grand total of 23,972 catch basins under the care of the Sewer Division on January 1, 1954.

Permit Office Report.—Entrance fees to the amount of \$4,704.20 have been deposited with the City Collector for collection from estates upon which no sewer assessments were ever paid, in accordance with Ordinances of 1945, chapter 27, section 10.

Eight hundred and ninety-nine permits have been issued, viz.: 288 to district foremen and contractors and 611 to drain layers for repairing or laying new house drains. Inspectors from this office have personally inspected the work done under these drain layers' permits.

Two thousand four hundred and eighty-eight complaints have been investigated, and inspectors are instructed to report in writing in each case.

One thousand five hundred and three catch-basin complaints were received.

Reported in writing on 2,361 municipal liens to the City Collector, in accordance with chapter 60, section 25, of the General Laws. Reported orally on about 2,400 requests for information on municipal liens.

Notices have been mailed to abutters in conformity with the Ordinances of 1925, chapter 27, section 8, apprising them of the construction of new sewers or repairs to old sewers.

Respectfully,

ROBERT P. SHEA,
Division Engineer.

**Summary of Sewer Construction for Twelve Months Ending
December 31, 1953.**

DISTRICTS.	Built by the City Either by Contract or Day Labor.	Built by Private Parties.	Total Lengths Built.	
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper.....	145.50	314.00	459.50	0.0870
Roxbury.....	707.60	8,782.00*	9,489.60	1.7973
South Boston.....	None.	2,386.00*	2,386.00	0.4519
East Boston.....	447.80	.....	447.80	0.0848
Charlestown	None.	None.	None.	None.
Brighton.....	914.48	.....	914.48	0.1732
West Roxbury.....	8,205.29	.....	8,205.29	1.5540
Dorchester.....	1,127.36	.....	1,127.36	0.2135
Hyde Park.....	15,921.78	.....	15,921.78	3.0155
Totals.....	27,469.81	11,482.00	38,951.81	7.3772

* Work done by New York, New Haven & Hartford Railroad in new market district and extension of Dorchester Brook.

**Summary of Sewer Construction for Five Years Previous to
January 1, 1954.**

	1949.	1950.	1951.	1952.	1953.
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>
Built by city by contract or day labor...	39,596.88	31,208.93	22,456.07	18,781.42	27,469.81
Built by private parties or other city departments.....	.....	3,938.00	.....	16,484.50	11,482.00
Totals.....	39,596.88	35,146.93	22,456.07	35,265.92	38,951.81

Total Length of Sewers.

DISTRICTS.	Total Lengths Built During Twelve Months Ending December 31, 1953.	Lengths Removed or Abandoned During Twelve Months Ending December 31, 1953.	Additional Lengths for the Twelve Months Ending December 31, 1953.	
	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Linear Feet.</i>	<i>Miles.</i>
City Proper.....	450.50	2,967.50*	—2,508.00	—0.4750
Roxbury.....	9,489.60	38.00	9,451.60	1.7901
South Boston.....	2,386.00	.....	2,386.00	0.4519
East Boston.....	447.80	.....	447.80	0.0848
Charlestown.....	None.	None.	None.	None.
Brighton.....	914.48	51.50	862.98	0.1634
West Roxbury.....	8,205.29	80.00	8,125.29	1.5389
Dorchester.....	1,127.36	.....	1,127.36	0.2135
Hyde Park.....	15,921.78	.....	15,921.78	3.0155
Totals.....	38,951.81	3,137.00	35,814.81	6.7831

* Due to the construction of the John F. Fitzgerald Expressway.

	Miles.
Common sewers and surface drains built previous to January 1, 1953	1,265.04
Common sewers and surface drains built between January 1 and December 31, 1953	6.78
Common sewers and surface drains built ending December 31, 1953	1,271.82
City of Boston intercepting sewers connecting with Metropolitan sewers to December 31, 1953	*6.81
City of Boston main drainage intercepting sewers to December 31, 1953	*24.12
Grand total of common and intercepting sewers to December 31, 1953	1,302.75
Total mileage of streets containing sewerage works to January 1, 1954	705.64

* No additional lengths built during 1953.

Catch Basins in Charge of Sewer Division.

DISTRICTS.	CATCH BASINS FOR TWELVE MONTHS ENDING DECEMBER 31, 1953.			TOTAL FOR WHOLE CITY IN CHARGE OF SEWER DIVISION.	
	Number Built or Rebuilt.	Number Abandoned or Removed.	Net Increase.	Previous Report to January 1, 1953.	Grand To to January 1 1954.
City Proper.....	0	0	0	3,657	3,657
Roxbury.....	57	4	53	3,405	3,458
South Boston.....	1	0	1	1,466	1,467
East Boston.....	13	0	13	1,204	1,217
Charlestown.....	0	0	0	846	846
Brighton.....	21	0	21	2,066	2,087
West Roxbury.....	184	10	174	4,228	4,402
Dorchester.....	18	0	18	5,614	5,632
Hyde Park.....	26	0	26	1,180	1,206
Totals.....	320	14	306	23,666	23,972

CALF PASTURE PUMPING STATION.

Sewage Record, 1953.

MONTH.	Total Gallons of Sewage Pumped.	Average Gallons Per Day of Sewage Pumped.
January.....	3,233,016,000	104,290,060
February.....	3,559,865,000	127,138,000
March.....	3,040,911,000	98,093,900
April.....	4,112,229,000	137,074,300
May.....	3,681,061,000	118,743,970
June.....	3,253,060,000	108,435,330
July.....	2,968,601,000	95,761,320
August.....	3,221,819,000	103,929,650
September.....	3,216,896,000	107,229,860
October.....	3,109,020,000	100,020,000
November.....	3,995,481,000	133,182,700
December.....	3,846,047,000	124,066,030
Total.....	41,238,006,000	
Daily average.....		112,980,821

Fuel Oil Used.

MONTH.	Gallons No. 2.	Gallons No. 5.	Cost.
January	191	8,119	\$638 05
February	206	4,045	326 81
March	447	7,996	650 40
April	261	8,119	625 31
May	205	3,076	249 93
June	254		26 88
July			
August			
September	207	3,966	329 04
October	200	3,986	331 41
November	401		42 85
December	431	16,691	1,358 61
Totals	2,803	55,998	\$4,579 29

Electricity Used.

MONTH.	Kilowatt Hours.	Cost.
January	536,000	\$6,455 97
February	637,780	7,298 85
March	522,000	6,498 89
April	693,560	7,760 19
May	589,480	6,873 17
June	551,680	6,575 47
July	469,000	6,106 16
August	554,000	6,543 42
September	504,000	6,306 09
October	518,000	6,308 30
November	665,960	7,671 21
December	625,580	7,338 72
Totals	6,397,240	\$81,736 44

Cost Per Year.

Labor	\$142,391 30
Edison power	81,736 44
Fuel oil	4,579 29
Supplies	8,100 33
Service orders — contracts	3,076 10
Total	\$239,883 46
Cost per million gallons of sewage pumped	\$5 82

**CONSTRUCTION REPORT, 1953.
Sewerage Works, 1953.**

ACCOUNTS.	Total.	Labor.	Tools and Materials.	Contractors.	Sundries.
Office and engineers' salaries.....	\$76,317 44	\$76,317 44			
Office and engineers' expenses.....	11,843 45	9,740 43			\$2,103 02
Miscellaneous.....	18,818 74	18,331 24		\$487 50	
Repair streets.....	6,912 00		\$6,912 00		
Repair sheet asphalt pavement in any street where no maintenance guarantee, John McCourt Company (contract No. 3883).....	1,219 83		75 00	1,144 83	
Stock.....	8,861 19		8,861 19		
Mechanics Iron Foundry Company.....	46,788 64			46,788 64	
Holidays, vacations, sick leave, etc.....	31,145 40	31,145 40			
Unadvertised jobs.....	940 32	940 32			
New catch basins, West Roxbury.....	628 80	628 80			
Total, miscellaneous.....	\$203,475 81	\$137,103 63	\$15,848 19	\$48,420 97	\$2,103 02
Total, sewers built.....	720,236 64	81,319 31	35,702 88	601,526 07	1,688 38
Total, gross expenditures.....	\$923,712 45	\$218,422 94	\$51,551 07	\$649,947 04	\$3,791 40

CONSTRUCTION REPORT, 1953.
Sewerage Works, 1953. — Concluded.

ACCOUNTS.	Total.	Labor.	Tools and Materials.	Contractors.	Sundries.
CREDITS.					
Construction stock used on construction.	\$42,689 88	.....	\$42,689 88		
Total credits.	\$42,689 88	.....	\$42,689 88		
DEBITS.					
Maintenance payrolls paid by construction.	\$881,022 57	\$218,422 94	\$8,861 19	\$649,947 04	\$3,791 40
Debit transfer from Street Laying-Out Department (recording orders and plans).....	890 69	890 69			
	32 25	.....	.....	.....	32 25
Total debits.	\$922 94	\$890 69	.....	.....	\$32 25
Total expenditures, 1953.	\$881,945 51	\$219,313 63	\$8,861 19	\$649,947 04	\$3,823 65

Sewerage Works Contracts, from January 1, 1953, to December 31, 1953.

LOCATION.	Started.	Finished.	Contractors.	Length in Feet.	Character.	Amount Expended in 1953.
EAST BOSTON.						
Waldemar avenue and private land.....	Feb. 26, 1953	April 17, 1953	N. Bevilacqua & Son	447.80	15" pipe, concrete surface drain, 4 manholes.	\$5,826 67
Waldemar avenue, between McClellan High- way and Crestway road.	Nov. 16, 1953	Nov. 27, 1953	N. Bevilacqua & Son	219.00	10" catch-basin drain	1,105 65
					6 catch basins.	
BRIGHTON.						
Commonwealth avenue, Brighton, and Canterbury Brook, West Roxbury.	Aug. 14, 1950	Sept. 30, 1950	Gaetano P. DeLuca	No const.	Final payment.....	218 02
Minor sewerage works in Commonwealth avenue, Chestnut Hill avenue, Strathmore road, Chiswick road, and Lake street.	Dec. 29, 1952	Jan. 30, 1953	R. A. Buccella & Sons, Inc.	198.00	10" pipe, catch-basin drain	6,709 30
					7 catch basins	
					2 drop inlets.	
Shepard Brook and in private land between Western avenue and a point 1,000 feet southerly from existing pipe culvert.	May 13, 1952	June 26, 1952	J. D'Amico & Co.	No const.	Final payment.....	1,022 69
Empire street, Brighton, and minor sewer- age works in various streets, West Roxbury.	April 9, 1953	June 24, 1953	Roslindale Contracting Company.	612.88 250.10 386.00	10" pipe, surface drain	20,263 38
					12" pipe, surface drain.	
					10" pipe, catch-basin drain.	
					5 manholes.	
					21 catch basins.	
					3 drop inlets.	
Village Brook conduit in Walter F. Cassidy playground (unadvertised).	June 4, 1951	July 1, 1952	Wes-Julian Construction... Corporation.	No const.	Final payment.....	2,360 12
Minor sewerage works in various streets, Brighton, Dorchester, Hyde Park, South Boston, West Roxbury, City Proper.	June 11, 1952	Aug. 18, 1952	N. Bevilacqua & Son	No const.	Final payment	830 01
WEST ROXBURY.						
Archdale road and Brookway road and extra work order build 196 feet 12-inch pipe sewer between Delford street and Brookway road.	Nov. 14, 1951	May 3, 1952	J. D'Amico, Inc.	No const.	Final payment...	187 86

Autumn street and Ashland avenue.....	Oct.	10, 1952	Dec.	12, 1952	R. A. Buccella & Sons, Inc. Dooley Brothers.....	No const.	Final payment..... Asphalt repaving.....	6,275 53 100 10
Bowditch road.....	May	21, 1952	June	10, 1952	Susi & DiCenso Company..	No const.	Final payment.....	118 54
Cemetery road, Sunnyside avenue, Garden terrace and Washington street.	April	21, 1952	July	12, 1952	Z & S Construction Company.	No const.	Final payment.....	1,201 78
Minor sewerage works in various streets in West Roxbury, Brighton, and Roxbury.	April	17, 1952	June	12, 1952	Joseph J. Struzziery.....	No const.	Final payment.....	770 74
Minor sewerage works in various streets in West Roxbury.	Nov.	12, 1952	April	17, 1953	Joseph Capone & Son.....	240 00	10" pipe, catch-basin drain..... 19 catch basins, 1 drop inlet.	14,433 59
Spring Street Brook in Gould street and Prospect street.	Dec.	27, 1951	July	3, 1952	Rosindale Contracting Company.	No const.	Final payment.....	5,600 04
Stonley road and Brookley road.....	Oct.	23, 1952	Oct.	29, 1952	R. A. Buccella & Sons, Inc.	No const.	Final payment.....	150 98
Fernwood road, Granville street and outlet, Sunnybank road and Albandle street.	April	16, 1953	June	22, 1953	R. A. Buccella & Sons, Inc.	2,044 50 740 25 895 00 508 00	10" pipe, sewer..... 10 inch pipe, surface drain. 10" pipe, sidewalk drain. 10" pipe, catch-basin drain. 18 manholes. 9 catch basins, 17 drop inlets.	15,313 04
Wyvern street, Pitsmoor road, Quarley road.	May	25, 1953	July	18, 1953	N. Bevilacqua & Son.....	636 96 539 83 116 00	10" pipe, sewer..... 12" pipe, surface drain. 10" pipe, catch-basin drain. 10 manholes. 1 manhole rebuilt. 9 catch basins, 1 drop inlet.	15,393 75
Ansonia road, Beech street, Beechland avenue, Franklin Hill avenue, Quinn Way, Searle road and Hopkins road.	July	7, 1953	Aug.	22, 1953	Rosindale Contracting Company.	397 00	10" pipe, catch-basin drain..... 22 catch basins, 4 drop inlets.	17,479 51
Oakmere street, Billings street, and Hemlock road.	July	21, 1953	Oct.	31, 1953	N. Bevilacqua & Son.....	526 15 534 45	10" pipe, sewer..... 10" pipe, surface drain. 2 manholes. 21 catch basins.	20,453 52
Lantern Lane from Weld street northerly. . .	Aug.	25, 1953	Sept.	17, 1953	Rosindale Contracting Company.	272 51 272 86	10" pipe, house drain..... 10" pipe, surface drain. 5 manholes.	6,545 97

Sewerage Works Contracts, from January 1, 1953, to December 31, 1953. — Continued.

LOCATION.	Started.	Finished.	Contractors.	Length in Feet.	Character.	Amount Expended in 1953.
Chestnut square and outlet in Glenvale terrace and Ballin road.	Oct. 27, 1953	Not yet finished.	R. A. Buccells & Sons, Inc.	56.30 161.00 25.00	10" pipe, house drain. 10" pipe, surface drain. 10" pipe, catch-basin drain. 3 manholes. 2 catch basins.	\$5,636 45
Wedgewood road and minor sewerage works in Alward road, Truman road and Ledgerdale road.	Sept. 11, 1953	Oct. 12, 1953	A & B Construction Company	178.15 177.25 64.00	10" pipe, house drain. 10" pipe, surface drain. 10" pipe, catch-basin drain. 2 manholes. 4 catch basins.	4,535 29
Cricket Lane (west arm) and Ledgerwood road.	Nov. 12, 1953	Dec. 12, 1953	Susi & DeSantis Co., Inc.	402.53 400.00 180.00	10" pipe, house drain. 10" pipe, surface drain. 10" pipe, catch-basin drain. 3 manholes. 11 catch basins.	3,025 21
Hemlock road, from Billings street 80 feet southwesterly and Centre street, near May street.	Dec. 28, 1953	Not yet finished.	Joseph Capone & Son.	79.35 79.35 38.00	10" pipe, house drain. 10" pipe, surface drain. 10" pipe, catch-basin drain. 1 manhole. 1 catch basin.	822 11
Rutledge street, from Bellevue street 200 feet east, and Veterans of Foreign Wars Parkway, private land opposite Hancock Village.	Not yet started.		Rosindale Contracting Company.	No const.	Engineering only.	37 28
DORCHESTER.						
Colorado street, between Almont street and Monterey avenue, Currier street, from Colorado street to Alabama street, and minor sewerage works in Almont street, Rosewood street, and Talbot avenue.	May 22, 1952	July 25, 1952	R. A. Buccella & Sons, Inc.	No const.	Final payment.	1,242 33
Manchoster street.	June 23, 1952	July 17, 1952	Joseph Capone & Son.	No const.	Final payment.	202 88
Morton street, south side, from existing sewer, opposite Evans street 170 feet westerly.	Jan. 26, 1953	Feb. 27, 1953	Susi & DeSantis Co., Inc.	159.30 7.00	10" pipe, sewer. 10" pipe, minor drain. 1 manhole.	2,693 11

Brockton street and minor sewerage works in various streets.	May 5, 1953	June	12, 1953	Bazarella Construction Co., Inc.	154.49 161.99 308.00	10" pipe, sewer. 12" pipe, surface drain. 10" pipe, minor drain. 4 manholes. 16 catch basins. 1 drop inlet.	12,212 98
William T. Morrissey Boulevard (formerly Old Colony Parkway), from 1,170 feet south of Mt. Vernon street to 365 feet southerly.	June 30, 1953	July	21, 1953	R. A. Buccella & Sons, Inc.	364.35	12" pipe, sewer. 2 manholes.	12,329 85
Edgewater Drive, from River street 290 feet southwesterly.	Aug. 17, 1953	Sept.	14, 1953	Z & S Construction Co., Inc.	287.25	12" pipe, sewer. 2 manholes.	5,230 69
William T. Morrissey Boulevard, from 1,100 feet south of Mt. Vernon street 280 feet northerly.	Construction not started.			C. Russo, Inc.	No const.	Advertising, engineering and inspection only.	762 84
HYDE PARK.							
Sewerage works and water works in Alwin street, Alwin court, Alwin terrace, private land and outlet in Turtle Pond Parkway.	April 6, 1953	May	22, 1953	DiMascio Brothers & Co.	788.10 905.43 707.48 271.65 298.80 150.45	12" pipe, sewer. 10" pipe, sewer. 21" pipe, surface drain. 15" pipe, surface drain. 12" pipe, surface drain. 10" pipe, surface drain. 19 manholes.	34,853 27
Halsey road, Cranmore road, and outlets in Badger road and private land.	May 8, 1952	June	14, 1952	Susi & DeSantis Co., Inc.	No const.	Final payment.	665 70
Halsey road and Van Brunt street, from Wakefield street to Cranmore road, and outlet in Wakefield street, etc.	Sept. 2, 1952	Nov.	21, 1952	N. Revillacqua & Son.	No const.	Payments and engineering only.	22,102 32
Metropolitan avenue, private land, and Huntington avenue.	Nov. 13, 1952	March	20, 1953	Underground Construction Company.	418.75 396.60 39.30 43.00	12" pipe, sewer. 12" pipe, surface drain. 15" pipe, surface drain. 10" pipe, minor drain. 1 combination manhole.	31,033 28
Metropolitan avenue and outlet in private land and Truman Highway, from Edith street to Vose avenue extended.	May 28, 1953	June	16, 1953	Z & S Construction Company.	647.45 387.20 31.00	10" pipe, sewer. 10" pipe, surface drain. 10" pipe, minor drain. 7 manholes.	8,301 20
Sewerage works and water works in Stony Brook Reservation, between Turtle Pond Parkway and Hallwood road.	Dec. 18, 1952	Jan.	19, 1953	Susi & DeSantis Co., Inc.	16.50 23.00	15" pipe, sewer. 10" pipe, minor drain. 1 manhole.	10,404 65

LOCATION.	Started.	Finished.	Contractors.	Length in Feet.	Character.	Amount Expended in 1953.
Turtle Pond Parkway and Stony Brook Reservation, from existing sewer 900 feet ± north of Berwick street 1,240 feet easterly and northerly.	April 14, 1952	June 28, 1952	Hyde Park Construction Co., Inc.	No const.	Final payment.....	\$865 07
Stony Brook, Section 17.....	June 1, 1953	Not yet finished.	F. E. Daddario Corporation & A. Piatelli Company, DBA, Daddario-Piatelli.	2,260.00 880.00 608.00 428.00 1,372.00 300.00 34.00	84" pipe, surface drain..... 72" pipe, surface drain..... 54" pipe, surface drain..... 30" pipe, surface drain..... 24" pipe, surface drain..... 18" pipe, surface drain..... 10" pipe, minor drain..... 17 manholes.	286,509 00
Ayles road from Edwardson street to West- minster street and outlet in Edwardson street between Lewiston street and Ayles road.	July 14, 1953	Oct. 15, 1953	Hyde Park Construction Co., Inc.	239.43 785.35 210.53 783.30 90.00	15" pipe, sewer..... 12" pipe, sewer..... 42" pipe, surface drain..... 36" pipe, surface drain..... 10" pipe, minor drain..... 8 manholes.	26,791 20
Austin street and outlet in Marston street, Reservation road at Sunnyside street.	July 28, 1953	Sept. 18, 1953	Joseph Capone & Son.....	675.15 214.90 133.20 521.00	12" pipe, surface drain..... 15" pipe, surface drain..... 18" pipe, surface drain..... 10" pipe, minor drain..... 6 manholes. 26 catch basins. 1 drop inlet.	26,086 13
Poplar street, between Grey avenue and Beach street, and in Neponset avenue, at Summit street.	Aug. 3, 1953	Not yet finished.	Carriere Construction Com- pany.	295.45 370.25 520.15 130.75 6,801.00 97.00	10" pipe, house drain..... 18" pipe, surface drain..... 12" pipe, surface drain..... 10" pipe, surface drain..... 10" pipe, catch-basin drain..... 10" pipe, minor drain..... 10 manholes. 23 catch basins. 4 drop inlets.	24,959 50
Sewerage works and water works in Alwin street and outlet in private land to Alwin terrace and Cheryl Lane.	Nov. 9, 1953	Dec. 17, 1953	DiMascio Brothers & Co.,...	303.19 650.70 302.08 331.20 319.70 24.00	12" pipe, sewer..... 10" pipe, sewer..... 15" pipe, surface drain..... 12" pipe, surface drain..... 10" pipe, surface drain..... 10" pipe, minor drain..... 9 manholes.	10,661 65

Not yet started.	Oct.	15, 1952	Oct.	29, 1952	A. D'Allesandro & Sons, . . .	No const.	Advertising and engineering only . . .	439 44
<p>Ayles road, from Westminster street to Safford street, and Westminster street, from Ayles road 70 feet northeasterly.</p> <p>ROXBURY.</p>	Oct.	15, 1952	Oct.	29, 1952	S. J. Tomasello Corporation.	No const.	Final payment	449 72
<p>Bituminous concrete pavement in Brayton street, Ward 22, at Kenrick street; Marcy road, Ward 18, River street to 335 feet northerly; Westmount avenue, Ward 20, La Grange street to Dent street and bituminous concrete pavement and sewerage works in Glenley terrace, Ward 22, Brayton street to about 533 feet westerly; Kilmarock street, Ward 5, Queensberry street to Park Drive, and such additional locations, if any, in Wards 5, 18, 20 and 22 as may be designated by the Commissioner of Public Works.</p>	July	15, 1953	Aug.	26, 1953	C. Russo, Inc.	290.65 151.50	10" pipe, surface drain. 10" pipe, catch-basin drain. 26 catch basins, 1 drop inlet.	22,358 73
<p>Annunciation road, Island street, Pike street, P. A. 1001, Roxbury, and in Paywood road and Crestway road, East Boston.</p>	Sept.	24, 1953	Oct.	5, 1953	Charles Callahan Company.	127.55	12" pipe, surface drain. 7 catch basins, 2 manholes.	8,192 21
<p>Theodore A. Glynn Way (formerly Burnham street), from Southampton street to Massachusetts avenue, Ward 8, and additional locations, if any, which may be designated by the Commissioner of Public Works.</p>	Nov.	30, 1953	Dec.	12, 1953	N. Bevilacqua & Son	118.20 133.20 69.00	10" pipe, sewer 12" pipe, surface drain. 10" pipe, catch-basin drain. 2 catch basins, 2 drop inlets.	960 95
<p>Joslin road (formerly Austin street), from Brookline avenue to Pilgrim road, and in Deaconess road.</p>					Work done by State. Inspection of sewers, etc., by Sewer Division.		Inspection	4,251 49
<p>CITY PROPER.</p> <p>Overhead Highway. (State) Inspection of sewers and connections by Sewer Division.</p> <p>Harvard street, from Albany street to Hudson street.</p>	July	6, 1953	Aug.	14, 1953	John J. Botti	145.50	30" pipe, concrete sewer (145.50 feet old wood sewer removed).	9,169 32
<p>Total expense for sewers built, 1953.</p>								\$720,236 64

Repair catch basins, East Boston.....	2,538 01	1,638 65	.....	426 00	.....	.....	473 36
Repair catch basins, Charlestown.....	1,014 20	569 20	.....	204 00	.....	.....	241 00
Repair catch basins, Brighton.....	1,303 77	610 55	.....	137 00	.....	.....	526 22
Repair catch basins, West Roxbury.....	4,906 92	2,403 57	.....	825 00	.....	.....	1,078 35
Repair catch basins, Dorchester.....	8,876 79	5,593 71	.....	1,171 45	.....	.....	2,111 63
Repair catch basins, Hyde Park.....	1,214 94	1,214 94	.....	.....	.....	.....	.....
Repair catch basins, Roxbury.....	3,814 06	961 90	.....	375 00	.....	.....	2,507 16
Repair catch basins, City Proper.....	15,229 14	11,210 74	.....	865 00	.....	.....	3,153 40
Repair sewers, South Boston.....	536 00	157 35	.....	115 50	.....	.....	263 15
Repair sewers, East Boston.....	322 57	.....	.....	36 00	.....	.....	286 57
Repair sewers, Charles- town.....	118 88	.....	.....	9 00	.....	.....	109 88
Repair sewers, BRIGHTON.....	775 18	551 61	.....	66 00	.....	.....	151 57
Repair sewers, West Roxbury.....	2,442 87	1,929 82	.....	228 00	.....	.....	285 05
Repair sewers, Dor- chester.....	1,337 65	697 47	.....	102 00	.....	.....	538 18
Repair sewers, Hyde Park.....	584 45	584 45	.....	.....	.....	.....	.....
Repair sewers, Rox- bury.....	2,314 91	1,159 93	.....	302 50	.....	.....	852 48

Sewer Division — Maintenance Expenditures, Details, 1953 — Outside Improved Sewerage. — Concluded.

ACCOUNTS.	Totals.	Labor.	Repairs.	Motor Vehicles.	Taxes.	Contractor.	Light, Heat and Power.	Materials.	Tools and Equipment.	Miscellaneous.
Repair sewers, City Proper	\$8,202 83	\$5,922 90		\$574 00				\$1,705 93		
Washington street, at Oak square, Brighton; Breck avenue, Brighton; and Southampton street, Roxbury (N. Bevilacqua & Son, contractor)...	3,069 52	890 69				\$2,178 83				
Washington street, at Mahler road, West Roxbury, and Marine road, at K street, South Boston (John J. Botti Company, contractor).....	70 56					70 56				
Miscellaneous	7,287 22	3,286 60		615 00		285 17		462 93		Carfares..... \$1,661 62 Telephone..... 644 95 Postage..... 16 45 Unliquidated reserve.. 275 00 Sundries..... 39 50
Back Bay Pens.....	1,072 59	581 75				247 60	\$243 24			Telephones..... 1,987 09
Telephones.....	1,987 09									Roots..... 175 22 Gloves..... 187 73 Coats..... 131 71
Rubber goods.....	494 66									
Holidays, vacations, sick leave, and time allowed.....	101,171 26	101,171 26								
Arborway land purchase, proportionate share from M.T.A..	1,875 00									1,875 00
Totals.....	\$575,653 56	\$459,377 73	\$158 26	\$37,483 56		\$42,222 83	\$914 12	\$24,097 77		\$11,399 29

Sewer Division — Maintenance Expenditures, Details, 1953 — Improved Sewerage.

ACCOUNTS.	Totals.	Labor.	Repairs.	Motor Vehicles.	Taxes.	Contractor.	Light, Heat and Power.	Materials.	Tools, and Equipment.	Miscellaneous.
Pumping Station, Calf Pasture.....	\$187,406 73	\$97,359 87	\$1,888 97				\$86,550 76	\$1,538 12		Towel service..... \$49 00 Sundries..... 20 01
Pumping Station, Union Park street...	17,922 90	15,068 44					2,601 57	231 29		Towel service..... 21 60
Pumping Station, Sunmer street.....	4,790 79	2,563 89					2,226 90			
Moon Island.....	47,256 72	45,423 16	163 28		\$558 80		1,004 97	60 91		Towel service..... 45 60
Main and intercepting sewers.....	33,882 85	29,202 09	231 12	\$2,696 00			333 70	1,293 74		Towel service..... 16 20
Calf Pasture Pumping Station, retanking the 1200 KVA 1300/460 V Westinghouse transformer, Westinghouse Electric Corporation, contractor, non-advertised).....	793 58					\$793 58				
Ejector installation in Charles Street Underpass (James W. McCusker Company, contractor).....	2,546 00					2,520 00				Advertising..... 26 00
Totals.....	\$249,599 57	\$189,707 45	\$2,303 37	\$2,696 00	\$558 80	\$3,313 58	\$92,717 90	\$3,124 06		\$178 41

Sewer Division — Maintenance Expenditure, Details, 1953.— Recapitulation of Maintenance.

ACCOUNTS.	Totals.	Labor.	Repairs.	Motor Vehicles.	Taxes.	Contractor.	Light, Heat and Power.	Materials.	Tools and Equipment.	Miscellaneous.
Outside improved sewerage expenditures...	\$575,653 56	\$459,377 73	\$158 26	\$37,483 56	.....	\$42,222 83	\$914 12	\$24,097 77	.....	\$11,399 29
Improved sewerage expenditures.....	294,599 57	189,707 45	2,363 37	2,696 00	\$558 80	3,313 58	92,717 90	3,124 06	.....	178 41
Totals.....	\$870,253 13	\$649,085 18	\$2,461 63	\$40,179 56	\$558 80	\$45,536 41	\$93,632 02	\$27,221 83	.....	\$11,577 70
CREDITS.										
Maintenance stock used on maintenance.....\$3,054 84										
Construction stock used on maintenance.....13,139 96										
Motor vehicles used on maintenance.....40,179 56										
Maintenance labor paid by sewerage works.....890 69	57,265 05	890 69	.....	40,179 56	.....	.....	.....	16,194 80	.....
Totals.....	\$812,988 08	\$648,194 49	\$2,461 63	.....	\$558 80	\$45,536 41	\$93,632 02	\$11,027 03	.....	\$11,577 70

APPENDIX E.

REPORT OF THE DIVISION ENGINEER OF
THE WATER DIVISION.

BOSTON, January 2, 1954.

To the Commissioner of Public Works.

DEAR SIR:

I respectfully submit the following report of the activities of the Water Division, operations and expenditures for the fiscal year ending December 31, 1953.

A total of 28,379.40 linear feet of main pipe were either laid or relaid, varying in sizes from 8-inch to 20-inch, inclusive, as follows:

DISTRICT.	LAIID. Linear Feet.	RELAID. Linear Feet.
East Boston	686	0
Hyde Park	575	2,428
West Roxbury	23,999.60	690.8

The particular streets in which the above work was performed are shown on the accompanying tables.

ENGINEERING OFFICE.

There is an insufficient number of capable employees on the engineering staff. This shortage of engineering personnel is getting worse instead of getting better, and an effort should be made to induce qualified men to enter the service of the city.

Under the provisions of chapter 4 of the Ordinances of 1952, which deals with capital improvements, the Water Division submitted a capital improvement program, which program has not been followed, due to the lack of necessary funds to carry out the program appropriated under the budget items.

The office force maintained its usual service to the public with information in relation to the Water Division, estimates on new service pipes, making out contracts, assisting the yard forces on Water Division matters, compiling official data, bringing the record plans to date, supervision of all construction and snow removal in areas Nos. 7 and 11.

The engineering forces were engaged in the latter part of 1953 in drawing plans for main pipe extensions from American Legion Highway to Cleary square, relaying 30-inch main in Perkins street, Charlestown, and rebuilding the trestle on the Dover Street Bridge.

The changes and abandonment of pipes in the Central Artery, from City square to Fort Hill square, are not shown in this report as the project was not completed in 1953. The same applies to the Bromley Park Housing Project.

The 30-inch main that connected Charlestown with Chelsea under the Mystic River is now discontinued by being capped in Chelsea by the M.D.C. and will be capped on the Boston side at the Pier Head Line this year.

The various agencies (Municipal, State, and Federal) were assisted in the design and supervision of construction of water mains on the following projects:

Central Artery — City square, Haymarket square to Fort Hill square.

Housing Authority

Bromley Park Housing Project
Whittier Street Project Extension
Franklin Hill Avenue Project
South and Child Streets Project
Franklin Field Project
Wood Memorial Project
Columbia Point Project

DISTRIBUTION BRANCH.

Due to the increased volume of work caused by applications for service pipes, etc., the department has engaged the services of contractors during the year.

The regular work of the branch, consisting of installation of new services and fire pipes, repairing of leaks, caring for complaints, shutting off and letting on water, freeing of stoppages in pipes, etc., was performed in such a manner and at such periods as to cause minimum delay and inconvenience to applicants for water, water takers, and the general public.

Service pipes repaired	3,369
New service pipes installed	785
Hydrants changed	117
Hydrants inspected, painted, lubricated, and gates marked	22,360
Main pipe repairs	140
Other miscellaneous work	1,296

The machine shop and plumbing shop handled all the drilling and connecting of services in addition to the regular work carried on in these shops, such as the machining and assembling of gates, valves, and hydrants, and the department assisted the other branches of the Public Works Department in performing special jobs.

METER BRANCH.

The meter shop handled a total of 25,282 meters, divided as follows:

Meters applied on new services	770
Meters discontinued	685
Meters changed	6,606
Meters tested in shop	13,212
Meters repaired in service	838
Meters repaired in shop	1,558
Meters reset	610
Meters junked	1,003
Total	<u>25,282</u>

BUSINESS OFFICE.

In order to enforce the payment of outstanding bills, customers in arrears are notified that the flow of water will be reduced, but yet enough water is left on the premises to provide a minimum for health and sanitary requirements. As a result, the Water Division ended the year 1953 with a surplus of \$533,649.12, this surplus being due mainly to the collection of bills due and payable.

Main pipe petitions received	14
Domestic service applications	738
Fire pipe applications	64
Special meter tests	34
Hydrant permits issued	13
Repair deposits received	106
Miscellaneous deposits	26

APPROPRIATIONS, EXPENDITURES, AND REVENUE.

Budget appropriation 1953	\$2,723,987 71
Amount expended	<u>2,458,359 86</u>
Unexpended balance	\$265,627 85
Amount of money collected during the year 1953	\$4,991,108 54
Amount expended from all sources	<u>4,457,459 42</u>
Balance	<u>\$533,649 12</u>

The metropolitan assessment for 1953 amounted to \$1,672,698.32 at the rate of \$40 per million gallons, an increase of \$35,738.34 over the assessment for 1952.

Total amount billed for 1953	\$5,025,205 63
Total amount collected for 1953 bills, as of December 31, 1953	\$3,933,447 11
Total amount abated for 1953 bills, as of December 31, 1953	\$13,470 39
Total amount collected in 1953 on bills rendered prior to 1953	\$909,485 66

This department contacts the water consumers very frequently throughout the year, and the conduct of the office has been such that I believe a spirit of good will between the customers and the employees has been brought about, which is beneficial to the consumers and the city.

On July 2, 1953, the governor signed an act of the Legislature, chapter 618, entitled — An Act To Provide for Increasing the Rate Per Million Gallons To Be Charged Cities and Towns Which Are Members of the Metropolitan Water District.

As a result, it became necessary for the Commissioner of Public Works to authorize an increase in the water rates to all water consumers within the limits of the City of Boston.

In order to acquaint the water consuming public with the increased water rates, the following flier was inserted with all water bills rendered after October 1, 1953, up to and including April 1, 1954:

“In recent years, the Metropolitan District Commission has been selling water to the various cities and towns at a substantial annual loss.

“It was necessary, therefore, for the current year’s Legislature to pass a law doubling the amount that Boston and other communities must pay for water furnished by the M.D.C. The new rate will have the effect of increasing — in the approximate amount of \$1,700,000.00 — the annual assessment levied against Boston by the M.D.C. In order to meet this increased assessment, it is necessary for the City of Boston to increase its water rates.

“Therefore, the following schedule of water rates will be in effect on all bills rendered after October 1, 1953:

RATE PER 1,000 CUBIC FEET.

First 20,000 cubic feet	\$2 00
Second 20,000 cubic feet	1 90
Third 20,000 cubic feet and up to 1,000,000 cubic feet	1 70
All over 1,000,000 cubic feet	1 15
Minimum rate, \$10 per annum (up to 5,000 cubic feet)	

“Bills, as in the past, will be computed on a quarterly basis. The enclosed bill is rendered on the new rates. Consumers are urged to keep all fixtures in good repair.”

The above schedule of water rates is now in effect and roughly represents an increase of $33\frac{1}{3}$ per cent over previous rates.

The issuance of statements of outstanding water bills to the consumers before placing of liens on premises has been continued.

Respectfully submitted, .

DANIEL M. SULLIVAN,
Division Engineer.

Financial Transactions, Water Service, 1953.

Cash balance from 1952		\$470,293 11
Receipts:		
Water rates and services	\$4,951,938 58	
Tax titles — water	39,169 96	
		<u>4,991,108 54</u>
		\$5,461,401 65
Expenditures from revenue:		
Pensions and annuities	\$82,953 42	
Current expenses and extensions	2,458,359 86	
Collecting department	187,667 06	
Auditing department	—	
Refunded water rates	319 50	
Refunded water collections	—	
Refunded water tax titles	—	
Metropolitan assessment	1,672,698 32	
		<u>\$4,401,998 16</u>
Transfer of 1952 surplus to redemption of city loans	346,336 56	
		<u>4,748,334 72</u>
		\$713,066 93
Expenditure from debt account:		
Boston water debt	\$36,000 00	
Interest on loans	2,360 00	
		<u>38,360 00</u>
Cash balance December 31, 1953		\$674,706 93
Cash forwarded to 1954		141,057 81
		<u>\$533,649 12</u>
Loan account:		
Balance outstanding January 1, 1953	\$84,000 00	
1953 payment on Boston water debt	36,000 00	
		<u></u>
Balance outstanding December 31, 1953		<u>\$48,000 00</u>
Construction account:		
Extension of mains (from revenue)		
Cost of construction December 31, 1953	\$24,718,476 68	
Cost of construction December 31, 1952	24,622,149 66	
		<u></u>
Increase in plant cost during 1953		<u>\$96,327 02</u>
Cost of existing works, December 31, 1953:		
Pipe yards and buildings	\$84,332 16	
Distribution system	24,563,452 79	
Hyde Park water works	175,000 00	
		<u>\$24,822,784 95</u>
High pressure		2,448,340 64
		<u>\$27,271,125 59</u>

SHUTTING OFF AND TURNING ON WATER IN 1953.

Number of shut-offs for repairs	6,529
Number of premises turned on after repairs	6,267
Number of shut-offs for vacancy	621
Number of premises turned on for occupancy	311
Number of premises shut off for nonpayment of water rates	17
Number of premises turned on again after being shut off for nonpayment	9
Number of premises shut off on account of waste	67
Number of premises turned on again after being shut off for waste	39
Number of new service pipes turned on for the first time	483
Total number of times water was shut off or turned on	<u>14,343</u>

WATER STATISTICS FOR THE FISCAL YEAR ENDING
DECEMBER 31, 1953.*Mains.*

Kind of pipe: cast-iron, steel
 Size, 2-inch to 48-inch
 Extended miles, 4.784
 Total miles now in use, 1,017.857
 Public hydrants added, 54
 Public hydrants now in use, 12,488
 Stop gates added, 89
 Stop gates now in use, 16,371
 Stop gates smaller than 4-inch, 36
 Number of blowoffs, 861
 Range of pressure on mains, 30 to 90 pounds

Services.

Kind of pipe and size:
 $\frac{3}{4}$ -inch to 2 inches in diameter of lead or copper.
 4 inches and 6 inches in diameter of cast iron.

TABLE No. 1.
Showing Length of Water Pipe and Connections Owned and Operated by Public Works Department, Water Division,
Water Services, and Number of Valves in Same, December 31, 1953.

DIAMETER OF PIPE IN INCHES.																	
	48	42	40	36	30	24	20	16	14	12	10	8	6	4	3	2	Total.
Length owned and operated.																	
December 31, 1952.....	55,595	16,191	9,599	30,238	75,843	89,395	108,061	366,856	285	1,850,549	449,049	1,290,893	927,344	60,717	11,904	6,509	5,349,028
Gate valves in same.....	26	4	5	31	50	76	71	773	14	5,265	1,576	4,769	3,041	545	18	18	16,282
Air valves in same.....	60	5	10	35	113	84	53	101	64	166	40	203	141	66	9	13	545
Blowoffs in same.....	11	5	6	11	33	37	52	76	76	166	40	203	141	66	9	5	861
Length laid and relaid during 1953																	
Gate valves in same.....								715.5		6,058		20,377.6	1,019.3	209			28,379.4
Air valves in same.....								2		18		72	2	1			95
Blowoffs in same.....																	
Length abandoned in 1953.....																	
Gate valves in same.....													2,920.8			198	3,118.8
Air valves in same.....													6				6
Blowoffs in same.....																	
Length owned and operated.																	
December 31, 1953, including	55,595	16,191	9,599	30,238	75,843	89,395	108,061	367,571.5	285	1,856,607	449,049	1,311,270.5	925,442	60,926	11,904	6,311	5,374,288
high pressure fire service.....	26	4	5	31	50	76	71	775	14	5,283	1,576	4,841	3,037	546	18	18	16,371
Gate valves in same.....	60	5	10	35	113	84	53	101	64	166	40	203	141	66	9	13	545
Air valves in same.....	11	5	6	11	33	37	52	76	76	166	40	203	141	66	9	5	861
Blowoffs in same.....							20,140	46,953		31,756							98,849
High pressure fire service.....																	

1,017.857 miles in distribution system, including high pressure fire service.
18,721 miles in high pressure fire service.

TABLE No. III.
Length of Main Pipe Owned and Operated by the City of Boston Water Service, December 31, 1953.

	DIAMETER OF PIPE IN INCHES.																Total.
	48	42	40	36	30	24	20	16	14	12	10	8	6	4	3	2	
Length owned and operated, December 31, 1952	55,595	16,191	9,599	30,238	75,843	89,395	108,061	366,856	285	1,850,549	449,049	1,290,893	927,344	60,717	11,904	6,509	5,349,028
Length laid and relaid during 1953..	.....	.....	.....	.....	.....	.....	.....	715.5	.....	6,058	.....	20,377.6	1,093.3	209	.....	.....	28,379.4
Length abandoned during 1953.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,920.8	.....	.....	198	3,118.8
Length owned and operated, December 31, 1953.	55,595	16,191	9,599	30,238	75,843	89,395	108,061	367,571.5	285	1,856,607	449,049	1,311,270.5	925,442	60,926	11,904	6,311	5,374,288
Length high pressure fire service....	.....	.....	.....	.....	.....	.....	20,140	46,953	.....	31,756	.....	.....	.....	.....	.....	.....	98,849

999,136 miles in distribution system of the City of Boston, December 31, 1953.
18,721 miles in high pressure service of the City of Boston, December 31, 1953.
1,017,857 total miles in service of the City of Boston, December 31, 1953.

TABLE No. IV.
Cost of Replacement of Main Pipe, 1953.

STREET.	Location.	District.	Size. (Inches.)	Feet.	Material.	Labor.	Inspection.	Original size. (Inches.)	Feet. Abandoned.	Contract Cost.	Total Cost.	Contractor or Other Agency.
Metropolitan ter.....	From Kittredge st.....	W. Roxbury	6	198	\$315 86	.....	\$48 00	2	198	\$910 00	\$1,273 86	Susi & DeSantis Co.
Robinwood av.....	Bet. Centre and Rockview sts.	W. Roxbury	8	157.8	2,857 61	.....	142 00	6	157.8	677 70	3,677 31	R. A. Bucella & Son
Robinwood av.....	Bet. Centre and Rockview sts.	W. Roxbury	12	225	.....	.....	.....	6	225	1,194 14	.....	R. A. Bucella & Son
Parley av.....	Bet. Parley Vale and Rockview st.	W. Roxbury	12	308	2,488 83	.....	160 00	6	308	1,364 75	4,013 58	R. A. Bucella & Son
Solaris rd.....	Bet. River st. and Ded. Line...	Hyde Park	8	607	1,920 86	.....	32 00	6	607	2,255 50	4,208 36	Susi & DeSantis Co.
West st.....	Bet. Hilton and Pierce sts....	Hyde Park	8	561	7,635 85	\$74 68	112 00	6	561	2,858 04	10,680 57	Susi & DeSantis Co.
West st.....	Bet. Hilton and Pierce sts....	Hyde Park	12	1,062	.....	.....	.....	6	1,062	5,547 96	5,547 96	Susi & DeSantis Co.
Total.....	.....	.....	.....	3,118.8	\$15,219 01	\$74 68	\$494 00	.....	3,118.8	\$14,808 09	\$30,595 78	.....

Size. (Inches.)	Feet. (Length.)	Size. (Inches.)	Feet. (Length.)
12	1595	2	198
8	1,325.8	6	2,920.8
6	198		
	3,118.8		3,118.8

Table No. V.
Cost of Extension of Main Pipe, 1953.

STREET.	Location.	District.	Size (Inches.)	Feet.	Material.	Labor.	Inspection.	Contractor's Cost.	Total Cost.	Contractor or Other Agency.
Bickford st.....	From Centre st.....	Roxbury	16	29.5	\$672 31	.....	\$160 00	†	\$832 31	Exec. by M. S. Kelleher Co.
Newmarket sq.....	Bet. Mass. av. and Southampton st..	City	12	20	453 47	\$146 00	360 00	†	959 47	C. J. Nancy Co.
Lyford st.....	From Stratton st.....	Dorchester	8	37	.....	.....	.....	†	.....	La Centra Co.
Westview street Ext.....	From Stratton st.....	Dorchester	8	1,244	1,795 68	172 75	24 00	†	1,992 43	La Centra Co.
Stratton st.....	Bet. Westview st. Ext. and Lyford st.	Dorchester	8	1,737	2,267 12	67 00	16 00	†	2,350 12	La Centra Co.
Ames st.....	From Westview st.....	Dorchester	8	1,007	999 31	.....	112 00	†	1,111 31	La Centra Co.
Woodbole av.....	Bet. Woodgate and Standard sts....	Dorchester	8	2,356	.....	.....	.....	†	.....	La Centra Co.
Standard st.....	Bet. Woodbole av. and Woodbole av.	Dorchester	8	1,052	.....	.....	.....	†	.....	La Centra Co.
Woodgate st.....	Bet. Morton and Standard sts.....	Dorchester	8	944	.....	.....	.....	†	.....	La Centra Co.
Woodruff Way.....	From Woodbole av.....	Dorchester	8	1,752	.....	.....	68 00	†	68 00	La Centra Co.
Woodmere st.....	Bet. Morton st. and Woodbole av....	Dorchester	8	269	.....	.....	.....	†	.....	La Centra Co.
Monterey av.....	From Savannah av.....	Dorchester	6	178.8	621 02	93 20	16 00	\$625 80	1,356 02	Exec. by Freaney Co.
Brockton st.....	Bet. Messner st. and dead end.....	Dorchester	8	191	1,061 27	.....	48 00	1,185 03	2,294 30	R. A. Buella & Son
Maryknoll st.....	Bet. Verndale and Groveland sts....	Dorchester	8	226	604 12	.....	60 00	807 50	1,471 62	Hyde Park Const. Co.
Addison st.....	Bet. Chelsea st. and McClellan H'way	E. Boston	16	686	6,493 23	730 00	464 00	5,097 90	12,785 13	J. Capone & Son

Glenwood rd.....	Hyde Park	8	510	.....	.....	.....	1,718 70	1,718 70	Susi & Di Santis Co.
Smithfield rd.....	Hyde Park	8	718	3,824 46	7 30	220 00	2,757 66	6,809 42	Susi & Di Santis Co.
Turtle Pond Pkwy.....	Hyde Park	8	50	.....	.....	.....	168 50	168 50	Susi & Di Santis Co.
Cheryl Lane.....	Hyde Park	8	341	970 72	.....	31 50	2,169 90	3,172 12	D. Mascio Co.
Alwin st.....	Hyde Park	8	81.5	.....	.....	.....	305 42	.....	D. Mascio Co.
Alwin st.....	Hyde Park	12	1,088	10,737 40	14 60	480 00	1,818 34	13,050 34	D. Mascio Co.
Alwin terrace.....	Hyde Park	8	396	505 62	.....	.....	911 44	1,417 06	D. Mascio Co.
Alwin court.....	Hyde Park	6	385.5	.....	.....	.....	920 40	920 40	D. Mascio Co.
Alwin court.....	Hyde Park	8	136	.....	.....	.....	377 97	377 97	D. Mascio Co.
Edwardson st.....	Hyde Park	8	218	726 23	.....	64 00	643 10	1,433 33	Hyde Park Const. Co.
Ayles rd.....	Hyde Park	8	1,142	2,967 34	14 60	63 00	3,267 75	6,312 69	Susi & Di Santis Co.
Cranmore rd.....	Hyde Park	8	155.8	571 15	.....	80 00	427 50	1,078 65	Hyde Park Const. Co.
Forest st.....	Hyde Park	8	603	1,924 77	7 30	96 00	1,585 00	3,613 07	Susi & Di Santis Co.
Millstone rd.....	Hyde Park	8	295	.....	.....	.....	656 00	.....	Susi & Di Santis Co.
Huntington av.....	Hyde Park	8	758	2,552 43	.....	80 00	2,185 00	4,817 43	Hyde Park Const. Co.
Lewiston street Ext.....	Hyde Park	8	369.5	1,590 74	.....	96 00	1,092 50	2,779 24	Hyde Park Const. Co.
Safford st.....	Hyde Park	8	54	.....	.....	.....	189 00	189 00	Hyde Park Const. Co.
Knight court.....	W. Roxbury	4	150	.....	.....	.....	450 00	450 00	Hyde Park Const. Co.
Lantern Lane.....	W. Roxbury	4	59	.....	.....	.....	176 40	176 40	.....
Lantern Lane.....	W. Roxbury	8	238	1,158 55	27 20	80 00	761 60	2,027 35	Roslindale Const. Co.
Parley av.....	W. Roxbury	8	79	.....	.....	.....	375 25	375 25	R. A. Buccella & Son
Bobolink st.....	W. Roxbury	8	65	230 51	.....	.....	320 19	550 70	R. A. Buccella & Son
Brownson ter.....	W. Roxbury	8	54	554 58	.....	48 00	326 19	928 77	R. A. Buccella & Son

By Contractor

Table No. V.
Cost of Extension of Main Pipe, 1953.—Concluded.

STREET.	Location.	District.	Size. (Inches.)	Feet.	Material.	Labor.	Inspection.	Contractor's Cost.	Total Cost.	Contractor or Other Agency.
Buchanan rd.....	Bet. Truman and Wedgwood rds....	W. Roxbury	8	416	.....	.....	.....	\$2,377 79	\$2,377 79	R. A. Buccella & Son
Cricket Lane.....	Bet. Ledgewood and Ledgewood rds..	W. Roxbury	8	434	\$1,347 79	.....	\$120 00	1,464 08	2,931 87	Susi & Di Santis Co.
Harwood st.....	From LaSalle st.....	W. Roxbury	8	160	492 84	.....	32 00	1,027 30	1,552 14	R. A. Buccella & Son
Pheasant st.....	Bet. Swan and Bobolink sts.....	W. Roxbury	8	279	1,613 53	.....	186 85	1,585 95	3,386 33	R. A. Buccella & Son
Swan st.....	Bet. Pheasant and La Grange sts....	W. Roxbury	8	174	.....	.....	.....	1,077 30	1,077 30	R. A. Buccella & Son
Sunnybank rd.....	Bet. Maple st. to dead end.....	W. Roxbury	8	82	257 38	.....	32 00	237 50	526 88	Hyde Park Const. Co.
V. of F. W. Pkwy.....	Bet. Trailer Camp.....	W. Roxbury	8	120	555 95	.....	40 80	550 00	1,146 75	R. A. Buccella & Son
Wedgewood rd.....	Bet. Buchanan rd and Weld st.....	W. Roxbury	8	308	2,176 26	.....	80 00	1,623 68	3,879 94	R. A. Buccella & Son
Gardner st.....	Dead end.....	W. Roxbury	6	257	.....	.....	.....	899 50	899 50	Exec. by Botti Co.
	Totals.....	.....	.....	25,260.6	\$49,725 78	\$1,279 95	\$3,158 15	\$42,163 14	\$96,327 02	

Size. (Inches.)	Feet. (Length.)
4	209
6	821.3
8	19,061.8
12	4,453
16	715.5
	<u>25,260.6†</u>

† A total of 25,260.6 linear feet of main pipe was extended in 1953. Of this amount, 13,802.5 linear feet of main pipe was extended and paid for by either the Market or Housing Authority, leaving 11,458.1 linear feet of main pipe extended and paid for by the City.

TABLE No. VI.
Total Number of Hydrants in System, December 31, 1953.

[illegible]

Table No. 1. Statement of Work Done During the Year 1953.

MAKE.	Applied.	Discontinued.	METERS CHANGED.		Tested in Shop.	Repaired in Service.	Repaired in Shop.	Resets.	Junked.
			Out.	In.					
Hersey.....	574	518	3,988	5,083	9,071	694	1,375	488	147
Watch Dog.....	196	120	1,920	1,523	3,443	136	181	122	127
King.....		14	357	.....	357	1	.....	.....	364
Worthington.....		26	300	.....	300	2	2	.....	314
American.....		1	19	.....	19	.....	.....	.....	22
Federal.....		3	11	.....	11	.....	.....	.....	14
Nash.....			1	.....	1	.....	.....	.....	2
Arctic.....		1	3	.....	3	3	.....	.....	3
Trident.....		1	2	.....	2	2	.....	.....	7
Lambert.....			2	.....	2	.....	.....	.....	2
Crown.....		1	1	.....	1	.....	.....	.....	1
Keystone.....			2	.....	2	.....	.....	.....	.....
Totals.....	770	685	6,606	6,606	13,212	838	1,558	610	1,003

Table No. 2. Meters in Service, December 31, 1953.

MAKE.	DIAMETER IN INCHES.											Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	10	12	
Hersey.....	68,017	4,431	2,434	1,275	900	351	377	127	39	20	9	77,980
Watch Dog.....	10,452	384	508	702	424	238	78	.....	.....	.....	.....	12,786
King.....	931	15	5	13	6	.....	.....	.....	.....	.....	.....	970
Worthington.....	1,809	6	3	6	8	5	.....	.....	.....	.....	.....	1,837
American.....	78	8	.....	.....	.....	1	.....	.....	.....	.....	.....	87
Federal.....	86	.....	.....	.....	1	1	.....	.....	.....	.....	.....	88
Crown.....	2	1	2	3	4	1	5	1	.....	.....	.....	19
Nash.....	11	1	.....	2	2	1	.....	.....	.....	.....	.....	17
Lambert.....	7	.....	.....	.....	.....	1	1	.....	.....	.....	.....	9
Arctic.....	.....	1	.....	14	14	20	9	2	.....	.....	.....	60
Trident.....	2	.....	2	.....	.....	29	10	.....	.....	1	.....	44
Keystone.....	2	.....	.....	1	.....	1	.....	.....	.....	.....	.....	4
Empire.....	4	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	5
Neptune.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Sparling.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	3
Totals.....	81,401	4,847	2,955	2,016	1,359	650	480	133	39	21	9	93,910

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	No Size	
C. P.'s.....	1,341	9	9	8	14	2	.....	2	2	.....	1,387
C. of B. C. P.'s.....	27	2	14	72	156	47	19	6	.....	13	356
Totals.....	1,368	11	23	80	170	49	19	8	2	13	1,743

Table No. 3. Meters in Shop, December 31, 1953.

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	12	
NEW.											
Hersey Disc.....		575			15	5					595
Hersey H. C. T.....						8	8				16
Hersey Detector.....								1		1	2
Watch Dog.....				11							11
Totals.....		575		11	15	13	8	1		1	624
OLD.											
Hersey Disc.....	1,030	335	40	10		1	5				1,421
Hersey Detector.....							7	4	5	1	17
Watch Dog.....	720	10	30	2		9	3				774
Totals.....	1,750	345	70	12		10	15	4	5	1	2,212

Table No. 4. Meters Repaired in Shop, 1953.

MAKE.	DIAMETER IN INCHES.										Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	12	
Hersey Disc.....	1,033	118	70	82	46	3	5	3			1,360
Hersey H. C. T.....						2	2	1			5
Hersey Detector.....							3	3	3	1	10
Watch Dog.....	18	44	10	53	28	26	2				181
Worthington.....						2					2
Totals.....	1,051	162	80	135	74	33	12	7	3	1	1,558

Table No. 5. Meters Repaired and Rebuilt at Factory in 1953.

MAKE.	DIAMETER IN INCHES.			Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	
Hersey.....	2,700	100	50	2,850
Watch Dog.....	2,000	.....	.....	2,000
Totals.....	4,700	100	50	4,850

Table No. 5A. Meters Purchased New in 1953.

MAKE.	DIAMETER IN INCHES.							Total.
	$\frac{5}{8}$	$1\frac{1}{2}$	2	3	4	6	8	
Hersey Disc.....	800	.....	.....	2	.....	.....	.....	802
Hersey H. C. T.....	.....	.....	.....	18	30	1	.....	49
Hersey Detector.....	.....	.....	.....	.....	.....	.....	1	1
Watch Dog Disc.....	.....	30	30	.....	.....	.....	.....	60
Totals.....	800	30	30	20	30	1	1	912

Table No. 6. Meters Reset in 1953.

MAKE.	DIAMETER IN INCHES					Occupied.	Connection Pieces.	Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2			
Hersey.....	437	29	13	5	4	32	456	488
Watch Dog.....	116	3	2	1	.....	4	118	122
Totals.....	553	32	15	6	4	36	574	610

Table No. 7A. Meters Changed in 1953. Meters Taken Out.

MAKE.	DIAMETER IN INCHES.									Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	
Hersey.....	3,536	201	126	65	28	16	9	3	4	3,988
Watch Dog.....	1,731	46	59	48	18	13	5	....	....	1,920
King.....	349	.....	.....	3	5	.....	.....	.....	.....	357
Worthington.....	300	.....	.....	.....	.....	.....	.....	.....	.....	300
American.....	18	1	.....	.....	.....	.....	.....	.....	.....	19
Federal.....	11	.....	.....	.....	.....	.....	.....	.....	.....	11
Keystone.....	1	.....	.....	.....	.....	.....	.....	1	.....	2
Arctic.....	.....	.....	.....	2	.....	.....	1	.....	.....	3
Trident.....	1	.....	.....	.....	.....	1	.....	.....	.....	2
Lambert.....	1	.....	1	.....	.....	.....	.....	.....	.....	2
Nash.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Crown.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals.....	5,949	248	186	118	52	30	15	4	4	6,606

Table No. 7B. Meters Changed in 1953. Meters Put In.

MAKE.	DIAMETER IN INCHES.									Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	
Hersey.....	4,389	378	183	71	35	9	11	3	4	5,083
Watch Dog.....	1,381	36	13	47	24	20	2	....	....	1,523
Totals.....	5,770	414	196	118	59	29	13	3	4	6,606

Table No. 8. Meters Repaired in Service in 1953.

MAKE.	Defaced and Broken Clocks.	Spindle Leaks.	Coupling Leaks.	New Train.	Broken Gears.	Examinations.	Repair Trains.	Total.
Hersey.....	124	376	67	25	27	72	3	694
Watch Dog.....	33	80	10	1	4	8	....	136
King.....		1	.....	.....	.....	.....	.....	1
Worthington.....		2	.....	.....	.....	.....	.....	2
Arctic.....		3	.....	.....	.....	.....	.....	3
Trident.....	1	.....	.....	.....	.....	1	....	2
Totals.....	158	462	77	26	31	81	3	838

Table No. 9. Meters Applied in 1953.

MAKE.	DIAMETER IN INCHES.									Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	6	8	
Hersey.....	421	24	15	23	51	13	20	3	4	574
Watch Dog.....	140	1	1	20	31	3	....	....	....	196
Totals.....	561	25	16	43	82	16	20	3	4	770

Meters applied on old service..... 21

Meters applied on new service..... 749

Total..... 770

Table No. 10. Meters Discontinued in 1953.

MAKE.	DIAMETER IN INCHES.									Permanently Discontinued.	Connection Pieces.	Vacancies.	Total.
	¾	¾	1	1½	2	3	4	6	12				
Hersey.....	399	54	31	8	17	3	3	2	1	227	222	69	518
Watch Dog.....	86	8	5	5	6	9	1	.....	.....	47	62	11	120
King.....	13	.....	.....	.....	1	.....	.....	.....	.....	3	7	4	14
Worthington.....	24	.....	.....	.....	.....	2	.....	.....	.....	6	20	.....	26
American.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Arctic.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	1
Federal.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	3
Crown.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	1
Trident.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	1
Totals.....	526	62	36	13	25	16	4	2	1	285	315	85	685

Table No. 11. Cause of Meters Changed in Year 1953.

MAKE.	Do Not Register.	Coupling Leak.	Spindle Leak.	Department Test.	Special Test.	Noisy.	Enlarged Meter.	Set Backwards.	Clock Broken.	No Force.	Frost.	Total.
Hersey.....	2,598	604	96	274	28	58	128	43	116	40	3	3,988
Watch Dog.....	1,581	180	17	56	3	8	46	6	12	11	.....	1,920
King.....	299	30	6	9	.....	.....	10	.....	3	.....	.....	357
Worthington.....	231	42	4	8	1	1	9	.....	2	2	.....	300
American.....	14	1	1	3	.....	.....	.....	.....	.....	.....	.....	19
Federal.....	6	4	.....	.....	.....	.....	.....	.....	.....	1	.....	11
Keystone.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	2
Arctic.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Trident.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2
Lambert.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	2
Nash.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Crown.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Totals.....	4,736	862	124	352	32	67	194	49	133	54	3	6,606

Table No. 12. Meters Junked in 1953.

MAKE.	DIAMETER IN INCHES.							Total.
	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	3	4	
Hersey.....	118	4	5	6	5	9	....	147
Watch Dog.....	123	....	1	2	1	....	....	127
King.....	358	....	....	3	3	....	....	364
Worthington.....	312	....	....	1	....	1	....	314
American.....	19	3	....	....	....	....	....	22
Federal.....	14	....	....	....	....	....	....	14
Lambert.....	1	1	2
Trident.....	1	4	2	7
Crown.....	1	1
Nash.....	1	1	2
Arctic.....	1	1	1	3
Totals.....	948	7	7	12	11	15	3	1,003

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